

# AMERICAN BEE JOURNAL.

EDITED AND PUBLISHED BY SAMUEL WAGNER, WASHINGTON, D. C.

AT TWO DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

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[For the American Bee Journal.]

## NOVICE.

DEAR BEE JOURNAL:—Here we are, February 8th, with our bees so near through the winter and in just the nicest condition that can be imagined; (we mean the bees;) but if any one should understand the remark to apply to us individually, he would not be very far wrong after all, for if the bees are all right, we generally are, as nothing else can upset us.

Mr. Editor, that bee-house of ours is all we could ask for thus far, and we have little fear of any bee-disease now. We have had some quite warm weather, and a few times some of the bees came out on the floor, perhaps half a teacupful in a week. This was a small matter, but we did not just like it; and upon a careful examination of all the hives, we thought we perceived a faint smell of something that reminded us of last winter. Accordingly, we that evening opened the doors until just before daylight next morning, when we found everything pure and sweet as we could wish. That was about three weeks ago. Since then we manage to open the doors over night once or twice every week—that is, when the night is not very cold, and we have many such this winter. Another fact; our pine doors were made to fit as close as they could without sticking. After the house had been shut about a week, the inside door is so tight that it can hardly be opened, and after being open all night, the bees are all quiet and the door shuts without touching, although made of the best seasoned pine. Does not this rather look as though our ventilators were not large enough? They are seven inches across, unobstructed, and the temperature very rarely goes above forty degrees.

There is yet one other thing. Our sawdust was not quite dry when put in, and we really do not know how anything could have been dry last summer. In the fall our little stove helped it some, but with such thick walls we do not suppose it got dried through. The bees seem amply able to keep warm enough, as they keep at steady forty degrees in the coldest weather we have had, which has not been lower than 10° above zero.

So far we can hardly believe any honey at all

has been consumed, as the sealed cells yet cover the tops of the frames.

Now, Mr. Editor, while the bees are all quiet and all right, we should like to have "our say" on bee-hives. If we have not said anything on the subject before, we have kept up an "awful thinking," and have some ideas of our own on the subject—though we should dislike to imagine that, as a correspondent suggested on page 210 of vol. 4, we are too well Rooted to be instructed. Far from it, for the very same article in which that expression is used, has been worth very much to us, and we hereby tender our sincere thanks to the writer for the light he then gave us.

Perhaps, Mr. Editor, you had better say

### "Novice on Hives,"

and then we will try and stick to our subject.

In the first place, kind readers, we have no idea that a hive can be made that will just suit *every one*, for so many perhaps have a particular way of doing a thing, and each one can do it better in his own way than by any other plan. We said some time ago that our Langstroth hives universally gave us more honey than the American, though we could not tell why—which has been kindly answered by the Baroness of Berlepsch. But we should have said then, and meant to say, both "bees and honey." Mr. Truesdell and Mr. Gallup started us in the right channel of thought, and we think we can now give the true reason in our locality.

When we wintered our bees out-doors, many of them were sure to be quite weak in the spring, and it took a considerable part of the season to build up before they were ready for business. Those in the American hive would be near the top, and we have invariably found much trouble and delay in getting the queens to laying below that wood cross bar, (which Gallup refers to when he speaks of the waste heat necessary in brooding a stick!) Well, the Langstroth hive invariably becomes full of bees, long before the bees in the American hive have used the combs down to the bottom board; because they have only to work out horizontally, in *precisely the same manner that Quinby gets such large yields in side boxes*. This is really no myth. Quinby don't speak so strongly unless he is sure of what he is saying.

Again—one way of getting "lots of bees," or "lots of honey," is by having "great big" swarms. If we are firmly Rooted anywhere it is just there; and we do not know of any half as easy to get such stocks as the two-story Langstroth, ten frames above as well as below, no honey board, and allowing the queen to come up stairs of course. Who has a better right? If we could get her to fill the whole twenty frames with brood, all the better. We think we could then get honey in such a season as Mr. Gallup mentions in his last; though we do not think Ohio is ever quite as bad as that. Of course the old-fashioned bee keepers call every season "the worst that was ever known for bees," (how bad they will get at that rate!) but we have found them all "jolly" so far. (Mr. Editor, why don't you nudge us and say—you are discussing seasons and localities, and not hives?)

Then let us get back to our mutton. We have fifty American hives, and how to make large swarms of them, if we had bees in them all, we really do not know. We cannot put on an upper story, and we cannot get the sides together, and we should not like them if we could.

Mr. Editor, do you know what a lot of brood and comb a two-story Langstroth will furnish? We are almost inclined to think, from one experiment last fall, that our best way will be, in the spring, to make every stock a full two-story one before swarming at all, and then make them *full grown at once*, on the plan we gave, even at the expense of having them a little later. We should always remove the upper set of frames in the fall. Mr. Truesdell's and Mr. Gallup's hive would do very well for one strong stock, but when it comes to be two-story or three, we—ah, well, we think we had rather have an old Langstroth, and if asked why? perhaps we might be induced to argue as the ladies do, and say "*cause we do!*"

But there is certainly one very strong reason in favor of Langstroth's pattern, viz.: to make and handle *thirteen* frames, to obtain the results (we mean with heavy, full stocks of bees) that we now obtain with *ten*, would be going back to something slower—which we never like to do; however, we are going to try an Economic Hive this season for experiment.

Mr. Quinby says, in his Circular for 1870, that several parts of Mr. Langstroth's hives happen to be unimportant to him, so he has not retained them. Further on he says, that with the improved hive, he has devised, it is *safe to calculate on an average of one or two hundred pounds of box honey, or two or three hundred when the mel-extractor is used*. We read this over and over, thinking it was not possible that Quinby meant to make such a statement, and then reflecting that we could not afford to be behind, we sent \$10.20 for a full sample hive, boxes and all, to see what it looked like.

Now, Mr. Editor, it was our misfortune to be so firmly Rooted in our own ideas, that we were really very much disappointed at first. Yet we hope we have sufficient good sense to know that Quinby should have reasons for his preference, and from his large experience should know far better than we do what is necessary.

There are eight large frames, (two less than Langstroth's, and so much less handling, as mentioned before,) standing up in the middle of the base board or floor. They are held upright by a piece of band iron fastened to one of the lower corners and bent at right angles, so as to slide under a strip of iron running just under the corners of all the frames. To remove a frame, we have to slide it lengthwise backward half an inch. (Directions are to move all back at once. How about gumming and propolis?) The frames are fixed at a certain distance, by nails driven in just so far, (a plan we have not liked in other hives,) and strips of tin slid in grooves sawed in the sides of the end pieces, making a tight hive inside, like a box hive. After this strips of tin are also laid on the top between each pair of top bars, to keep them in place. They are bent into a V-shaped trough, two of them lapping in the middle between each pair of frames, close the brood apartment, except the sides, which are closed by the side boxes. To open the hive, the fourteen pieces of tin must be taken off the tops of the frames; then the other fourteen pieces that close the ends must be pulled out of the grooves, as the frames are removed, for they can only be got back by sliding them in from the top after the frames are put back close up to the nails. The frames cannot be replaced in any other way, even in a hive without bees, as we vainly tried to do.

The advantage gained by these twenty-eight tin strips is that of having the circulation of air prevented between the ends of the frames. In the spring, especially, we have no doubt this would be of considerable importance with a weak swarm. But with a strong swarm, in a well-made Langstroth hive, with tight honey-board and all, we really think there could be no great difference. Of course we cannot judge so well until we have given it a trial, and may be much mistaken in many things; but those twenty-eight tins covered with propolis appal us. With the mel-extractor, he directs sixteen frames, all side by side; and we must think that such a shape would not be the best economy.

For out-door wintering, his hive gives every advantage, as far as we can see, of a straw hive; and for spring and summer, the outside case makes a double hive; but does not the disadvantage of depriving the bees in spring of much of the benefit of the sun, counterbalance the advantage? We could not help thinking that our smooth, clean Langstroth hive, with its suspended frames, was—oh, so much simpler, easier, handier every way.

The arrangement of the side boxes, we have no doubt, is a great thing; but why not have the frames on a bent iron rod, or something of that sort? (We have made a second story to the Langstroth hive, quite satisfactory by raising the cap, and hanging the frames on a bent rod rising from the four corners.) We thought, perhaps, Quinby's hive was not intended to be opened, but in his directions to make it a non-swarm, he says the queen-cells must be cut out every week, and with the mel-extractor what then? By omitting the tins we might get along; but then, we fear, the fabric would all keel over.

We cannot help thinking that Mr. Quinby has more time at his disposal than we have. A friend, who assisted us with our melextractor, could not be persuaded that the Quinby hive would be practicable at all, as we used the Langstroth frames.

We intended to be present at the convention in Cleveland, but a mistake in the date prevented. We were there two days before, and saw a beehive that, for a labyrinth of puzzles, was ahead of Quinby's. The inventor, in trying to please everybody, has introduced everything he probably ever heard of in beehives. From the report of the convention, we should judge that it would have done very well for about fifteen years ago. We think the BEE JOURNAL, the melextractor, etc., were not mentioned at all. There is something about the Italian bee, but not much.

We may have said a great deal, Mr. Editor, in favor of the Langstroth hive, yet we cannot help thinking that a straight line is the only shortest line between two points; and even if that is covered by a patent, it is better to use it than to go to great expense to avoid it. After tendering our best wishes to all bee-keepers, we will remind them of what they probably already know, that the ideas advanced are, after all, only those of

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P. S.—Mr. Editor, will you please tell those that do not know us, that we have no interest in Langstroth's patent, or any other, and never expect to have—for which, as for *all other blessings*, may we always be thankful.

[For the American Bee Journal.]

### Faults in Wintering Bees.

In the July number of the BEE JOURNAL, pages 5 and 6, Mr. DADANT tells us of his mishap in wintering bees. I was well aware when I penned the article to which he refers, that I did not give the whole cause, according to my own views, but the great trouble with me is, to condense my articles, and still say all that I wish to say on any subject, and not have it too long for one article in the BEE JOURNAL. Therefore I do not know any better way than just to take GALLUP as you find him, and not expect him to be as he ought to have been.

I think that in one article I said that a large number of swarms had died in this vicinity, and large numbers more would die before spring. *Why was I so positive?* For this very reason, that the bees had gathered considerable quantities of honey in September, while the weather was cool, and also while their numbers were greatly reduced in accordance with the *old age theory*. Hence the consequence would be (and was) that said honey would not be sufficiently evaporated for the bees to winter on. Perhaps I cannot better illustrate this, than by giving my own management and that of one of my neighbors only a fourth of a mile distant—both operating at the same time, with the same kind of hive, and under the same climatic influence. One of my hives had only seven frames filled with comb and honey and occupied by bees. That stock win-

tered in excellent condition, and had abundance of honey to last till the 1st of June. By that time they had the hive completely filled with bees, vacant side and all; but at no time had they gathered sufficient honey to build comb. My neighbor was managing his colony under my instructions, and I was very careful to explain to him the reasons, the whys and wherefores of my instructions, and also the consequences. But, instead of following my directions after his hive was half filled with comb, (for I examined it myself up to that time,) he removed the division board entirely, and gave the bees access to the empty half at once. The consequence was, they built more comb than my colony, and stored honey outside of the cluster; and that honey was thin and watery, not over half evaporated. I helped him to set them in the cellar in the fall, pronounced them as having abundance of honey to winter on, as they were actually heavier than several of mine; but I did not open the hive, to examine them. Some time in February two of his colonies starved to death. I then examined them and found, for the first time, that he had removed the division boards, contrary to instructions. I asked him why he did so, and his reply was that he could not see the propriety of following my instructions; or, in other words, he thought he knew better than I did! When will bee-keepers learn that honey gathered in cool weather must be stored in or directly above the cluster of bees? Or, in other words, that the hive must be compact and adapted to the quantity of bees in the colony, or the honey stored at such such times will be worthless for wintering. Warmth is indispensably necessary for the due evaporation of nectar. If the weather is warm enough, all right; if not, the bees must be assisted in keeping up artificial warmth.

It is a very easy matter to prophecy, that bees are going to winter remarkably well in this locality this season. Although the summer was wet and cold, there was abundance of honey gathered in the fall. But there was plenty of brood, and the bees were strong in numbers; and unless they were in very badly formed hives, their honey is all of excellent quality and well evaporated, they will not consume over one-third the amount they would if it were only half evaporated. To still further illustrate this, I have seen in July, when the bass-wood was in bloom, and the weather showery and hot, night and day, and the atmosphere moist, (at such times the secretion of nectar is immense,) strong stocks fill every vacant cell through the day, and even fill a comb placed outside at the entrance; and in their eagerness even gather honey while it was raining quite hard. Now, examine them at night—all is full, bees, combs and all; and all this nectar is so thin and watery, that on turning the comb slightly sideways the least jar will make the liquid drip out like so much water. But examine again next morning, and this then watery stuff is nearly all gone. It is condensed by evaporation and stored in the surplus boxes; or a portion, perhaps, manufactured into comb. There is now again any quantity of empty cells, and the comb that was filled on the outside of the hive, is once more entirely empty. All through



the night the busy little fellows kept up such a loud noise that they could be heard for rods from the hive; and the following day they fill the cells again, and the same process is gone through anew. At night this then watery stuff is all converted into the very best quality of honey. All this is done, mind you, while the weather is hot night and day.

One more example. Several years ago, I knew a man by the name of GALLUP. He had quite a number of good colonies, all in box hives; and some time about the 10th of August, he had seven stocks that had neither cast swarms nor stored surplus honey. He drummed out a large swarm from each, and put them into large hives, sixteen inches square and fourteen inches high; and twenty-one days after, he drummed out the remainder of the bees, as all the young brood had then hatched; and united them with the first swarms. He then had seven hives filled with pollen, &c., for sale or family use. Did not he boast of what he had done? No swarm of bees could fool him out of his honey! Well, those new hives were all weighed before the bees were put in, and they were weighed again after the bees had done working for the season, and they averaged fifty-eight pounds, net, after deducting the weight of the hive. Well, you see that his neighbors had hives in the same condition; but they did not drum them out, as GALLUP did—and did not he come over them? The fact is, that anything that this GALLUP did not know about bees was not worth knowing! Along in the winter these bees had the dysentery pretty badly; and by the first of March, every swarm of the seven was dead—all starved! Now remember, that while the bees were gathering this honey, the nights were very cool; and the hives being so large, it was impossible for the bees to get up the necessary heat to evaporate it properly. The last part of that performance GALLUP did not boast much about. However, he made the discovery that he did not know as much as he thought for; and when a person has made that discovery, there is a great chance for him to learn more.

E. GALLUP.

Osage, Iowa.

P. S.—I still think that the *old age theory* was at the bottom of that bee-disease in this vicinity.

[For the American Bee Journal.]

### Size of Hives and Product of Honey.

I was interested and instructed by the account given by A. Grimm of his experience in bee-keeping. By the experiments of twenty-seven or eight years, with so great a variety of hives, large and small, his opinion is certainly entitled to much weight. I cannot claim a long experience or the use of any great variety of hives. My experiments were commenced in 1860, in the seventieth year of my age, and have thus far been aimed to the securing a hive from which a swarm may be secured at the pleasure of the keeper; or the whole colony be continued constantly at work, not delayed by the disposition to swarm, and no time lost in preparation for it.

My change in the hive, either in form or size, has been partly to secure this or these objects.

A word of explanation about the size of hives: Mr. Grimm informs us that he has used hives from seven hundred to four thousand eight hundred cubic inches in the main apartment. This main apartment is, in fact, the hive; while the boxes that form the receptacles of the surplus honey, which are added or removed at pleasure, do not form a part of the hive proper, that being the apartment strictly given to breeding and wintering. When the boxes are on they form the principal part of the room for honey. The breeding apartment is of the capacity of from about one thousand to two thousand cubic inches, I think probably from sixteen hundred to eighteen hundred may be the best. When we come to the boxes, the different sizes (of hives) have boxes of from three thousand two hundred and forty to nine thousand four hundred and four cubic inches, holding from ninety to two hundred and forty pounds. There may be a little more or less than this, according to the manner in which the comb is constructed. It will be seen that the whole room in the central apartment and the boxes, ranges from four thousand two hundred and forty cubic inches in the smallest, to eleven thousand two hundred and forty in the largest. The inquiry is, what advantage is secured by abundant box room.

1. All the workers will be actively employed in storing honey. With no boxes and the hive small, all but those accommodated with room within, will cluster outside of the hive, and only leave to get their daily provision, and return to cluster outside. If two small boxes are placed on the hive, enough may gather in them to occupy the room; and if no preparation is making for swarming, they will store honey in the boxes; but the balance of the supernumeraries will cluster out in idleness. If the boxes are all placed on to make room for the whole colony, as they increase they will enter the boxes and work in them, unless preparations for swarming are making. The result will be, honey will be accumulating in all the boxes, instead of in one or two. I have known a colony storing honey in twenty-five boxes at one time, and they gave one hundred and forty-seven pounds of surplus. Another colony worked in all its boxes at one time, as many as twelve empty boxes were required to supply the place of as many full boxes which were removed. They gave one hundred and seventy-four pounds in the season. Does any one believe they would have gathered as much with only two or four small boxes upon the top of the hive, changed six or eight times?

2. Bee-keepers understand well that during the time of preparation for swarming, very little surplus honey is stored. The most is used to supply the brood and be ready to accompany the queen in her emigration. I have several times noticed colonies that I supposed were engaged in filling the surplus boxes, that when the swarm issued would leave their boxes and to my surprise leave them entirely empty. The loss of a week, and sometimes two weeks, right in the height of the honey harvest from white clover may make a difference of fifty to one hundred pounds.



3. It is known that the old queen emigrates with the new colony. The brood in the parent hive that forms the second and sometimes the third swarm, are the product of the old queen. Suppose the first swarm gathers forty pounds for winter, twenty pounds surplus; the second swarm gathers twenty-five pounds for winter; the old one gathers twenty pounds besides winter stores. It will be recollected that this is the work of the product of the old queen. The young queens will only be ready to supply workers to take the place of the old laborers, who have finished their labor with the close of the season and passed away. We have now, if we add twenty pounds for the third swarm, one hundred and twenty-five pounds, besides the winter stores for the old colony. If we add to this fifty pounds lost by idleness during the preparation for swarming, we have from the colony one hundred and seventy-five pounds in surplus in the one hive. Can any one assign a reason why this result should not be reached?

Mr. G. informs us—"When I commenced bee-keeping in this country, I had only one colony, which doubled itself the first summer, but gave me no honey. In ten seasons, during which my stocks had, by natural and forced swarming, increased to fifty-three, I obtained surplus honey from hives and caps only in two seasons."

Again, he says:—"In twenty-one years the bees in my home apiary have not gathered a pound of white clover honey; nor, with the exception of one season, have they stored any in boxes from buckwheat, while some of my neighbors, three or four miles off, have had white clover and buckwheat honey stored in most seasons."

Has not Mr. G. been engaged in raising bees for sale, increasing his stock by artificial swarming, and raising queens, in nucleus hives? If so, may not this account in part for lack of surplus honey? Are not his hives calculated to secure these objects? Are they not simply box hives with cap and boxes on the top, or Langstroth's with but little box room for surplus honey? This may account in part for the failure in surplus.

I have brood from four colonies in the two thousand cubic inch box hives, with boxes on the top covered with a cap. Three of these gave one swarm each, and not one ounce of surplus honey. One gave no swarm and twelve pounds of honey. Thirteen colonies in the farmers' hive, with boxes of seventy or eighty pounds capacity to each hive, gave an average of a fraction over sixty-one pounds each.

Four Eureka hives, in 1867, with box room for one hundred and twenty-five pounds per hive, gave an average of one hundred and twenty-five pounds each. This was in a field where neighbors near by, in the old style box hive, would only compare with the common results of such hives.

Now I know not why my friend G. may not do as well with the same appliances. One hive gave one hundred and seventy-four pounds; and more than one hundred pounds of this was

from white clover, and so fine as to sell for forty cents per pound.

If I had Mr. G.'s apiary, I should put the colonies doubled into the Eureka hive; place them in two fields, well ventilated and shaded, expecting thus arranged to obtain from them an average of from one hundred and fifty to two hundred pounds each.

I think Mr. G. gives his highest average of surplus honey in his hives at fifteen pounds.

A colony of bees will probably consume sixty pounds or more, within the year. On this supposition Mr. G.'s bees consumed four-fifths of the honey gathered, and he secured one-fifth. He had four hundred colonies at one time. They must have required for consumption twenty-four thousand pounds. This is twelve tons. Suppose it was at this time he had his average of fifteen pounds per colony; then he secured from all six thousand pounds, or three tons.

My colonies in the Eureka hives gave an average of one hundred and twenty-five pounds. At the consumption of sixty pounds per colony they gave five pounds per colony more than two-thirds. Four hundred colonies in Eureka hives would have given fifty thousand pounds or twenty-five tons. This presents the following question: "Shall we place our bees in hives in which they will give us but one-fifth of the honey in our field, or in hives that will give us more than two-thirds of it?"

*A word on the Italian Bees.*—I observe, in a communication in your issue for January, 1870, a mistake which, I think, should be corrected. In 1867 I had four colonies of bees in the Eureka hive—one Italian and three native. I gave an account to the "*Rural New Yorker*" of the result that season. The product of the Italian colony was two swarms and one hundred and six pounds of surplus honey; of one native colony, two swarms and ninety-seven pounds of surplus; of one other native colony, no swarm but one hundred and twenty-three pounds of surplus honey; the other colony gave no swarm but one hundred and seventy-four pounds of surplus honey. I gave this result as the fruits of that season. But I think I was not such a novice as to say or suppose that that settled the question as to which kind of bees was best. In 1868 I had seven or eight additional colonies of Italian bees, purchased in 1867. They stood in the same apiary with my native bees. The bees in our field of three miles each way, were nearly or quite doubled from the previous year, and gathered less than half the honey per swarm on the average. My four highest colonies gave respectively one hundred and forty-seven, one hundred and six, seventy-nine, and seventy-five pounds. Neither of the colonies of the black equalled the lowest Italian by several pounds. The success of the Italians was reported in several papers, in which I gave a report of my apiary for the year.

I should not trouble you with this correction, but I am unwilling to be considered as prejudiced against the Italian bees. I think the friends who are seeking to introduce them into the country are doing a public benefit.

In reply to your correspondent's hint of the

propriety of my entering largely into the bee business, I may say when he enters his eightieth year, he may learn why entering largely into any business will seem a heavy burden.

I will add that I feel much interest in your valuable journal and wish you much success.

Should any of your readers wish particularly concerning the Eureka hive, I will send them a circular on receipt of their address and a postage stamp. I wish agents in every town.

JASPER HAZEN.

Albany, N. Y.

[For the American Bee Journal.]

### Bee-Keeping in Eastern Massachusetts.

MR. EDITOR:—When we read in the JOURNAL statements of the large profits of bee-keeping in different parts of the country, such as Messrs. J. L. Peabody and Andrew Byers gave us in the January number, we feel as though we, in Essex county, (Mass.,) are doing a small business, and conclude that we are in an unfavorable location. Such a conclusion is a correct one; but why is it so? We have plenty of bee pasturage. Willows are plenty; fruit blossoms in abundance; and white clover almost without limit, from early in June until about the middle of July. Still we get a small income compared with other locations.

When I commenced bee-keeping, about twelve years since, I supposed I was in a good location for the business. But I soon found that bees would not increase in numbers, and store honey to such extent as Messrs. Langstroth and Quinby speak of in their books. I was soon convinced that the difficulty was in being situated so near the sea, and getting the cold northeast wind peculiar to this part of New England, from the last of March to about the first and sometimes to near the middle of June.

People who lived here, and afterwards in other parts of the country, (perhaps not out of New England,) say they nowhere feel such cold northeast winds as we have here. Anyone, by looking at the map, can at once see why it is so. It comes sweeping down from the frozen regions, over fields of floating ice, and not passing over much land, it strikes us with a chill almost of an iceberg. After passing over a few miles of land, it gradually becomes softened and loses much of its harshness.

In 1863, from March 28th to June 4th, (sixty-nine days,) the wind was between north and east fifty-one days. In such weather the flowers yield no honey. It is so much lost time with bees. Of course, if honey gathering is checked, stock breeding is checked also. Consequently when white clover, which is the main dependence here for surplus honey, comes into blossom, the bees are not in a condition to gather it, being weak in numbers and light in stores. And by the time they get strong and the hive is filled below the harvest is passed. If the white clover could remain in blossom through July, it would often make the difference between a good yield and a total failure of surplus honey.

I intended last spring to adopt Mr. Gallup's

method of encouraging breeding by placing empty combs between combs filled with brood; but found no time up to the middle of May that my judgment did not tell me they needed assistance to keep warm what little brood they had, rather than an increase of it.

Occasionally we have a season comparatively free from these cold winds, and then the bees always do well. Such was the case in 1860, 1864, and 1867. Although the business is very uncertain, I think it pays on the whole about as good profit on capital and labor as other pursuits connected with agriculture.

I agree with Mr. Alley in regard to the honey-emptying machine. I used it last season on one swarm that I judged to be strong enough to work in boxes, but refused to do so. We took out about ten pounds of honey, and I am satisfied that they were as heavy on the first of September as though none had been taken away. It was so much clear gain. Bees sometimes seem to lose all energy. They will cluster outside the hive when there is plenty of room in the boxes. Under such circumstances, if the combs are taken out and returned again, it will oftentimes set them to work with vigor. If the machine is used and a part of the honey taken away, they will work all the better for it. But we should be careful not to take it away too near the end of the honey season.

C. ROGERS.

West Newbury, Mass., Feb. 2, 1870.

[For the American Bee Journal.]

### Peabody's Honey Extractor.

What are the advantages claimed for this machine over that with a wire box, as made by the National Bee Hive? Well, Mr. H. O., or Mr. J. L. Peabody, please state what advantages it has, and in what they consist. I think the readers of the AMERICAN BEE JOURNAL would, *en masse*, be gratified to receive the information, so that they might before purchasing, judge intelligently between it and the old machine. Will it extract honey quicker? Is it easier to operate with it? Is it cheaper, more durable, and less liable to be broken or disarranged? Answers to such or similar questions would no doubt be satisfactory information to those who propose to purchase machines next spring, and be looked for with interest.

D. H. COGGSHALL, JR.

West Groton, N. Y.

CHLOROFORMING BEES.—"Some time after this, I attempted to quiet an angry swarm of bees by slipping under the gum a sponge containing something over half an ounce of chloroform, and succeeded admirably. When they had become quiet, I removed what honey could be spared from their stores, and left them all quiet. They are quiet still, for the chloroform killed the last bee."

DR. A. LOVE.

In Southern Cultivator.

[For the American Bee Journal.]

**A few Facts at Variance with generally accepted Theories.**

In reviewing the past season's operations in my apiary, I find noted a few facts that came under my observation, which not only seem to be at variance with my past experience, but also with the teachings of some of our scribes and best authorities.

My first swarm, a very large one, issued on the 2d of June, at 9 o'clock A. M. It was my intention to make an artificial swarm the next day, but they were a little too fast for me. I soon had them in a hive with two frames, containing short sheets of comb. The next day, at 2 o'clock P. M., they left and settled again. I found that they had made some new comb, and concluded that they left the hive for want of more ventilation, as it was a very warm day. So after preparing the hive for thorough ventilation, I put them back into it. The next day thereafter, about noon, they left the hive again, and made straight for the woods, in a "bee line." I soon run myself out of breath, and gave up the chase. Again examining the hive, I found the combs full of eggs.

The first thing that was unusual about this, was swarming so early in the morning as 9 o'clock. Most authorities say swarms need not be looked for only between 11 o'clock A. M., and 3 o'clock P. M.; and I never knew one before to come out before 11 o'clock. But this was not the only one that came out so early last season.

Again, it was rather remarkable that a swarm should leave a hive, containing combs and honey, after the queen had commenced depositing eggs. I do not think the hive could have had anything to do with it, for the next swarm that issued was put into it and set in the same place, and went to work all right.

Later in the season, when the honey harvest was abundant, I made an artificial swarm, by removing the old hive, putting a new one in its place, with two frames half full of combs, with brood and honey from a third hive, and brushing off a good many young bees from the combs of the old hive in front of the new. I gave them a young fertile queen from a nucleus. The queen was soon laying, and both swarms doing well. Now what was strange about this was, that when the hive was only about half full of combs, a large swarm came out, leaving but few bees in the hive, with several queen-cells complete. I removed the queen-cells and returned the swarm, and all went well.

I would here state that my bees (all Italians) this season, had the swarming propensity to an alarming extent, greatly to the detriment of their honey-storing propensity. After more than doubling the number of my colonies, I felt satisfied with the increase, and wished to keep them storing honey, but they were differently inclined, and most of my artificial and first swarms, and even second swarms, sent out new swarms.

This brings me to another fact at variance with some of our orthodox teachers. We are taught that young queens will scarcely lay in

drone combs. Now, last season, every young queen in my apiary laid drone eggs, and the bees reared drones in all the available drone combs in their hives, of which, when not removed, there was considerable. I would state that forage was very abundant in September and October, which stimulated the queens to breeding very extensively; and the bees did not kill off their drones—some of which were seen flying as late as the middle of November. All the hives, both early and late swarms, were well prepared with bees and stores, to go into winter quarters.

THADDEUS SMITH.

Pelee Island.

**Bees in Yucatan.**

I find the following paragraph in Norman's Rambles in Yucatan, in describing a hacienda near Uxmal. Who can tell us more of the bees of Central America and Mexico? The ancient Aztecs had honey when first visited by the Spaniards.

T. S.

"There are a large number of Indians attached to this hacienda, who appear well; and so does everything connected with it. Different from many others, this establishment has an air of comfort and prosperity, much to the credit of those who supervise its concerns. It has its six hundred bee-hives, which are made of hollow logs, cut into lengths of two feet each. They are well arranged under sheds erected for the purpose—opened monthly, and the honey extracted. They do not yield so much honey, or of so good a quality, neither are the bees as lively as those of the north. Their bees have no sting. Great attention is paid to the preservation of the wax, which is almost a staple in the country, so much is consumed in religious exercises."

These bees are *Meliponas*, and might perhaps be cultivated in Florida, but all attempts to introduce them north have hitherto failed.

[For the American Bee Journal.]

**Alsike Clover.**

MR. EDITOR:—I think you do not say enough in praise of Alsike clover. I have three acres from which I saved the seed this year, yielding twenty-five bushels, which I sold for five hundred dollars as soon as it was threshed. It yields from two to three tons, per acre, of as nice hay as ever was put in my barn. I ditched a meadow a year ago last fall, where nothing grew but swale grass, and of poor quality. I turned the sod over between the ditches, and in the fore part of June sowed it to Alsike clover, without manure; and the result was as stout a piece of clover as ever was seen in this section—the admiration of all who saw it. My cows fed on it till snow fell, which was on the 1st of December. I should state that the land flows at every flash of rain fall.

The Alsike clover keeps in bloom four weeks. My bees gathered honey from it that length of time, and did finely.

A. W. TITUS.

Wilmington, Del.



[For the American Bee Journal.]

**Those Diamond Frames once more.**

MR. EDITOR:—Pardon me for this second talk to Mr. Conklin and his Bennington colony of bee-keepers.

First, a little biography. I, M. Miller, am fifty-six years old, a cabinet-maker by trade, and worked at it and joinering forty years. I have kept bees twenty years; have Langstroth on the "Hive and Honey Bee," Quinby's "Mysteries of Bee-keeping," and have read all the volumes of the AMERICAN BEE JOURNAL except the first. I have invented five different hives and tested them.

Now, Mr. Conklin, do you think I can level a bee-hive as well as a doctor? Keep cool, and I will add a little to what I have already said on page 99 of vol. 5, in the way of levelling and the mode of hanging a frame angling. I claim a right to talk about them, as I am the first inventor. If I understand you, on page 187, vol. 4, and page 139, vol. 5, AMERICAN BEE JOURNAL, you convey the idea that all that is required to obtain straight combs in the Diamond hive is to level the hive, put in a swarm of bees, and let them have their own way in building; and the frames being hung angling so affects the bees as to secure combs built straight every time. And your Bennington colony sustain your statement. Certainly, at first view, your statement seems to be a strong one. We will examine the case further. A defendant's witness sometimes is brought into court and sworn to tell the truth in the case. He tells the truth, indeed, but only part of it, and makes a case for the defendant. The plaintiff's counsel cross-examine him, and now he tells the whole truth and makes a clearer case for the plaintiff. The last truth spoiled the first. I believe this case of straight combs in angling frames is a parallel one. There is a second truth somewhere, although I may not be able to secure a revelation of it from you or your witnesses. I am confident you and they can reveal if you or they choose. Now, sir, my five years' experience of angling frames, as previously stated, and Mr. Price's of I know not how long, (see AMERICAN BEE JOURNAL, vol. 5, page 140,) is the reverse of yours and the Bennington colony of one year. Why, sir, if it were true that the bees would always make straight combs in those frames, and no exceptions, I would have had a patent for them years ago, and your patent would be nowhere. Did you take your hive to the Michigan Bee-keepers' Convention last September? I see you were there. Admitting you and your Bennington witnesses state the truth, your hive should take the premium at every bee-keepers' convention or fair, and no exceptions, if you had it there. How is it that Thomas's hive got it on that occasion? Please turn to vol. 3, page 28, of the BEE JOURNAL, and J. H. Thomas's answer to Querist's question, and learn the reason why bees will not make straight combs in your angling frames, without constraint. The top bars of Thomas's, Gallup's, Quinby's and Alley's hives are about twelve inches long, and they do not always get straight combs without interchanging guide-combs or partitions. Your two combined

upper bars are six inches longer on a straight, horizontal line than theirs; and by following the inclination of the two upper bars, they are as long again, and therefore present twice as many points as theirs for the bees to commence building combs, consequently they will start combs in twice as many places in the same frame, and build twice as many crooked combs in yours as in theirs. Colony of Bennington, is it not a fact that you all have secured all straight combs in those two hundred or more hives last year, (for you say hundreds,) by interchanging guide-combs and partition boards? I have sometimes secured straight combs thus in those frames, but it is no credit to the hive; it costs more than it is worth. If not secured thus, I do not see your secret humbug. It may be because you reside in the vicinity of the Professor. You may be tainted with Flanderism! Gentlemen, I will tell you how I found out the Professor's humbug, a number of years ago, at the Ohio State Fair at Cleveland. I first saw the Professor on the fair grounds, mounted on an auction stand, selling *bee-charm*. He had an old, porous plush cap on his head; the cap covered with a swarm of bees, and the bees persisting in sticking to the old plush, although there were on the stand boxes full of *bee-charm*, the bees paid no attention to the charm in the boxes or the bottles, as these passed to the pockets of his customers. Now, why should a little *charm* on the old plush cap have such an effect on the bees, while piles of it lying around had no effect on them whatever? I was bound to find out the mystery, if I could. I looked on until the Professor sold out his whole stock, and gathered up his traps to start for the hive. I then started for Flanders and kept close to his heels, so that we both arrived at the hive at the same time. Off came the old plush cap and bees, and into the hive he shook the latter. He then stuck his hand into the cap, pulled out a paper partition, turned the cap over, and shook out the *queen*; and I found where his humbug was hidden! Now, gentlemen, I may not find out as easily where your humbug is hidden, but it is concealed somewhere. It is not the peculiar mode of hanging those frames that secures straight combs always and without exception. But that they secure the reverse, as a rule, is not guess-work with me. It is experience of which I affirm.

To whomsoever it may concern: The mode of hanging rectangular combs angling, I believe to have become public property six or seven years ago, and free to all to use. But I consider them worthless things, for the reason that there are many better hives. It may be of interest to some to have further proof that I have made, used, and sold to others to use, the rectangular frame hung angling in bee-hives; and the time when they were made and used. I refer such to the Rev. H. B. Hosford, C. W. Farrar, merchant, A. Ellsworth, farmer, William Wright, farmer, O. Porter, joiner, all of Hudson, Summit county, Ohio; T. Colbourn, of Akron, Ohio, and S. C. Brown, of Tama City, Iowa. These have or had them in use. Verily, verily, how uncertain a patent bee-hive speculation is!

Peninsula, Ohio. M. MILLER.

[For the American Bee Journal.]

**"Paper Hives," and "Claims" of N. C. Mitchell.**

Time has moved apace, and to-night it occurs to me that C. Hastings' last article on the paper hive, in the September number of the BEE JOURNAL, has not received from me the little attention which is its due.

In his first article, after describing Dr. Edwin Cox's paper hive, Hastings says: "They \* \* \* *meet the wants of the bees in every respect.*" In his last article he says: "We do not approve of the Doctor's *form of hive or style of top-bar* \* \* \* ; but paper in some form we cannot dispense with." So this paper "in some form" proves to be the diminutive "mouse" that, in Hastings' mind, has been brought forth by the "Elephant" "paper hive," "which originally met the wants of the bees in every respect."

I can see no alternative now for Hastings, than to "come down" in frank acknowledgment that he is himself found numbered among the "gentiles" upon whom the Doctor "played sharp."

Dr. Edwin Cox's theory of the growth of honey comb enables him to work upon the credulity of such as are unacquainted with the "mysteries of bee-keeping;" and when he has persuaded the credulous to believe in his doctrine, he has them in a fit condition for "gulling" them to the tune of heavy sums. The same probably holds true of the author of the little pamphlet sent out in the interest of "Mitchell's Buckeye Hive," who claims that he "can take one good colony of bees in early spring, and increase it to *sixty-four* good strong colonies of bees, with ample stores to carry them through the winter, if a fair season for honey;" and hints in a most *desperate* way at being able to increase said colony to *one hundred* equally strong and well-stored colonies. If men who will advocate such nonsense, by either word or pen, do not find those whom they can dupe by making them believe in the miraculous, and rob them, I know nothing of human nature.

Z. C. FAIRBANKS.

Appleton, Wis., Jan. 15, 1870.

[For the American Bee Journal.]

**Workers Reared in Drone Comb.**

At the suggestion of Mr. Charles Dadant, in the January number of the BEE JOURNAL, I propose to write an item or two concerning drone-raising.

In an effort to raise drones last season, I placed two frames of drone comb in the centre of a strong Italian colony, in the month of September. Three days after I found plenty of eggs, and nine days after some of the eggs were missing and honey was being stored in their place. The brood that remained was capped level; the cells not contracted in any way perceptible. In due time all hatched; but not a drone was to be found, to make sure I examined some of these bees and found they had stings.

I have also had drones raised in worker combs, the cells being lengthened; and also promiscuously

among worker brood.\* In consequence, I am of opinion that the queen determines the sex of the eggs, and is governed according to circumstances and the condition of the colony.

Let me add a word concerning the improved Langstroth non-swarming hive: Those I have were made at Hamilton, Ohio, and are his standard-hives. I elevate the back end of the hive to an angle of thirty degrees, (30°.) In that way it is not a shallow or a deep hive, but forms a medium, with the advantage claimed for the triangular-top hive. I have as yet always succeeded in getting straight combs; and use frames in the upper box mostly. During the four seasons I have used these hives they have given me, in the poorest honey season, forty pounds of surplus comb honey, and sixty pounds in the best season, without swarming; and with that I am satisfied.

The honey resources are not sufficient to make reports as some I see in the JOURNAL.

JOHN L. FISHER.

Tiffin, Ohio.

\* In such cases the queen is evidently approaching superannuation, and should be removed and replaced by a younger and better.—Ed.

[For the American Bee Journal.]

**Ohio Bee-keepers' Association.****ANNUAL MEETING.—ELECTION OF OFFICERS.**

The Bee-keepers' held their meeting on Friday, January 14th, 1870, at the City Hotel, in Cleveland. During the war these meetings were suspended, but were revived in 1869, and will be held regularly hereafter. On Friday morning a meeting took place, and soon adjourned until afternoon, when the committee on topics for discussion reported the following:

1. The best mode of cultivating the bee.
2. The best mode of feeding bees.
3. The best mode of wintering bees.
4. Does a pure Italian queen, impregnated by a black drone, produce pure drones?
5. The best way to change the breed of a swarm from black to Italian.
6. The best mode of securing surplus honey.

The first two topics were discussed by Dr. J. P. Kirtland; H. D. Danks, of Fondulac, Wisconsin; A. H. Hart, of Appleton, Wisconsin, and several others. The general opinion was that honey is the most profitable food for bees, as it is their only natural and safe diet. Crushed sugar had been used with fair success, but the result was not good enough to recommend it.

Dr. Conklin, of Bennington, Morrow county, said that the President of the Michigan Bee-keepers' Association had told him that he had found that the best way was to destroy the late weak swarms in the fall, and not try and nurse them through. He was in favor of wintering through as many as possible, and then stimulating early breeding. One stock in May is worth four in July. If fed on rye or oatmeal, until natural pollen can be obtained, the prolific queens will lay from two to three thousand eggs per day, during the propagating season. His Italian bees throw off their best and strongest

swarms by the 15th of May. His plan is to remove from a full hive one or two cards of comb containing young bees, and place them in a new hive, with a small supply of honey. He introduces queen-bees by artificial process, not waiting for them to be reared in the natural course, thus saving much time in propagating. He said that the greatest profit in raising bees is obtained by keeping the swarms large and vigorous.

The following officers were elected for the ensuing year:

*President*—Dr. J. P. Kirtland, of Cleveland.

*Vice-President*—J. T. Merriman, of Burton, Geauga county.

*Secretary and Treasurer*—E. T. Sturtevant, of East Cleveland.

The subject of wintering bees was discussed by Drs. Conklin and Kirtland, Mr. Hart, of Wisconsin, and Mr. Sturtevant, of East Cleveland. These gentlemen all gave their experience on the subject. Mr. Hart had met with the greatest success in burying his hives during the winter, and had tried several plans to preserve them. He had at the convention a new hive of his own invention, which he had found better than anything he had ever seen.

Mr. Sturtevant believed the best way was to leave the hives on their summer stands, and give them plenty of ventilation.

Dr. Conklin thought it well to leave them on the summer stands, and cover the hives with cloths, cut straw and leaves. He thought these absorbed the moisture and retained the heat.

Dr. Kirtland said that the heat arising from fifty-two of his hives standing under a shed, was sufficient to melt snow upon the roof. Here he winters his strong swarms. For the weak ones he has a cemented cellar, where they are kept secure. He experiences little difficulty in wintering. In the way of depredations, he has suffered most from theft. Of late he has been considerably annoyed by the wood mouse. Six swarms were destroyed last winter by them. This year he flanked them by nailing strips of tin, to prevent them from boring under the hives.

The question of Italianizing was next taken up. Dr. Kirtland said he was some time ago presented with an Italian queen bee. He placed her in a hive with a few combs of young bees and honey; she immediately went to laying drone eggs, and in a short time the entire swarm was Italianized. He soon learned by observation that they were much more industrious workers than the ordinary blacks, and he changed his whole twenty-five swarms to that breed.

Brief remarks upon this subject were made by Mr. Hart and one or two others, after which the meeting adjourned till evening. In the evening very few members were present, and after a few conversational remarks, the Association adjourned to meet on the second day of the Ohio State Fair, wherever it is held.

Not the least wonder of this conventicle of wonders—the hive—is, that it confounds the astute reason of man to comprehend it in all its significancies.—SHUCKARD.

[For the American Bee Journal.]

### Variation of the Honey Season in Countries having the same Latitude.

In ordinary years, the honey season in this section of country (Jefferson county, Ohio) begins the first of June and terminates about the 20th of July. This term is slightly modified by the earliness or lateness of the spring, character of the weather, &c. If the spring should open early, and the weather favor the abundance of white clover and other spring flowers, with a genial atmosphere throughout, this period may be extended a week or ten days. On the contrary, if vegetation is retarded by the prolongation of winter, and drouth early supersede the alternation of showers and fair weather, the period of honey gathering will be curtailed two or three weeks.

Until recently, I had thought that the time of storing honey by the bees was uniform over all the States, except only that a difference in latitude would advance or retard it, as we proceed either North or South. But, on reading the late correspondence of the BEE JOURNAL from the West, on the honey product and season of last year, I discover that the season most productive of honey there is, by no means, identical with corresponding period here. Accounts from Indiana, Illinois, Iowa, and parts of Missouri and Minnesota, represent that the honey season did not set in there till some time in August, and that it continued through that month and a part or the whole of September. This contrasts so widely with the results in this section as to give rise to the inquiry, what should cause such disparity in the honey harvest in countries in other respects identical? To expect much surplus honey here after July, except in localities where much buckwheat is sown, would exhibit a mind but illy in accord with the history of past experience. Buckwheat is the only plant grown here that bees can forage on in the fall of the year, with any probability of securing a surplus; and it is cultivated in limited quantities, and only in seasons when other crops threaten a failure. No other mellifluous plant, of either artificial production or spontaneous growth, abounds in sufficient quantity to furnish honey for surplus, or even a supply adequate to replace that consumed in breeding, wear, &c. What, then, should combine to produce such a disparity of the honey season of countries so contiguous? Reason would seem to teach that white clover, which is our main dependence, blooms simultaneously in all countries not differing essentially in latitude. As this plant continues in bloom in this section no later than July, except in uncommonly wet seasons, it cannot be reasonably classed as one of those flowers, abounding in mellifluous nectar, which caused such encouraging reports from the West. On the contrary, the close affinity that exists between this State and the States of Indiana, Illinois and Iowa, in point of soil, climate and production, would seem to militate against the theory that a different class of flowers would cause the difference. However, incongruous as this sentiment does seem to me, the question is inexplicable on any other hypothesis. Who, of



the many intelligent contributors to the BEE JOURNAL from those parts of the West in which the fall is the ruling honey harvest, will make this subject the basis of an article for the JOURNAL? Will my friend, Mr. E. Gallup, of Osage, Iowa, who, it appears, has experimented in different climates and States, as well as with almost all kinds of hives, give us an article on the subject of bee pasturage in the countries in which he has resided? The subject is one of interest to a large class of bee-keepers, and doubtless could be made profitable; as its agitation would probably lead to the introduction of some new plants, on which bees could forage with advantage in the fall.

If there are in other countries valuable bee-plants that are not thought to be too foreign to the country in which I live, I, for one, should not be unwilling to undergo some trouble and expense in experimenting upon their adaptation and availability as forage plants here. I see, in one of the numbers of the BEE JOURNAL, a communication from Mr. Farel, in which he speaks very highly of two honey-producing plants, purporting to be different varieties of the golden rod. I also see the Aster very highly spoken of by another writer, as affording valuable fall forage for bees. If Mr. Farel, or any other bee-friend benevolently inclined, will assume the task to procure seeds of these plants, and transmit by mail a small package of the same to my address, I will see that it is to his interest so to do, as in return for the favor, I might perchance accommodate him to something he would like to have. I have hitherto been engaged in the cultivation and sale of almost all the choice fruits, flowers, flowering shrubs, &c., and now have Italian queens. And though numerous varieties of the improved Chinese Asters are grown here for ornament, none of the wild species exist here that I know of, nor of the golden rod either.

JOHN L. McLEAN.

Richmond, Jefferson Co., Ohio.

[For the American Bee Journal.]

### Quality of Soil for Bee-keeping.

MR. EDITOR:—On reading the January number of the BEE JOURNAL, and Mr. Grimm's article—"Product of Honey," &c., on pages 134 and 135, I thought it would be well to give my own experience in that respect. Mr. Grimm also complains that Alsike clover yields very little honey in his locality. I was at Jefferson a few years ago, attending a term of court; was in his bee-yard, and examined his hives, fixtures, &c., without as much as asking his leave. I passed the premises at different times during the week, but saw no person to whom I could introduce myself; but it is impossible to keep me out of a bee-yard, and always was, so in I went.

But what I was going to say is, that I formed an opinion at the time, about the soil for producing honey, and Mr. Grimm's article confirms that opinion; and I will now inform the reader how any poor soil may be improved or made fit for producing honey. Where I lived in Wisconsin, the fashion was to cultivate our land until it was

nearly exhausted, and then seed it down to grass, expecting a good crop of hay without any manure, and for five or six years I was compelled to feed my bees every summer, to keep them from starving to death. There was an abundance of white clover, but it produced no honey. A neighbor, one season, hired a green son of Erin to haul out manure to a certain six-acre pasture lot that was well seeded to white clover. This neighbor was compelled to get out the manure, as the barn was too large to be moved, Western fashion. He set the man to work, went away on business, and was gone a week. The man covered the ground, so far as he went, from four to six inches deep with manure, and thus smothered the grass completely. But the clover seed came up the following year, and the next season after it blossomed profusely. Then, instead of having to feed my bees they gave me considerable surplus white clover honey. I had the benefit of that clover patch for four years, and it was then plowed up and planted to corn. There was a strip on two sides of the patch that was not manured, and when the manured part was literally covered with bees, and you could fairly smell the honey, there would not be a solitary bee seen on the unmanured part. I took the hint from that, and manured my clover patch; and the consequence was I not only obtained honey, but had the satisfaction of having hay and pasture for my stock.

That the atmosphere has something to do with the secretion of honey in flowers is certain; but the quality of the soil must be attended to likewise. The poorest kind of soil can be made to produce honey, by plastering and manuring highly. It is entirely useless to sow Alsike clover on a miserable, poor soil, and expect it to produce honey. I have seen a couple of rows of currant bushes, the currants produced by which were little, sour things, and while the bushes were in blossom scarcely a bee visited these. I then completely covered the ground six inches deep, in June, for several feet each side of the rows with horse manure, to kill the grass and weeds, and the following spring, while those bushes were in bloom, they were completely swarming with bees every forenoon. Nor was that the worst of it! Our "better-half" said that she could scarcely believe that the fruit was the same variety it was the previous season, as it was so much larger and sweeter. I could give several other instances of this kind, but shall not at present.

ELISHA GALLUP.

Osage, Iowa.

When bees begin to fly in the spring, it is well to feed them a little, even when they have abundant stores, as a small addition to their hoards encourages the production of brood.—*Langstroth*.

If young queens are allowed to issue at will they are pale and weak, like other young bees, and for some time unable to fly; but if confined the usual time they come forth fully colored, and ready for all emergencies.—*Langstroth*.

[For the American Bee Journal.]

**A Winter-bred Queen.**

MR. EDITOR:—I winter my bees in a bee-cellar, formed by digging a hole, seven feet by ten, in the ground in a dry place. The bottom is paved with stone; sides studded, and boarded outside the studding; the rafters are put on at half pitch, with straw and dirt cover over the whole, two feet thick. It has a door in the wall, and another clap-door at the top of the steps. It is an out-door cellar. A ventilator, three by four inches, goes down from under the eaves, at one end, to the floor; and a chimney five by six inches, from the apex of the roof at the other. It is dark, still, and at a uniform temperature of 35° to 40°. I have used it four winters with perfect satisfaction. I am confident it has saved me many bees, and that we have no business to attempt wintering bees out-doors in this temperature. They must be put in dry, before any frost has formed in the hive, or they will mould. I think this was the trouble with Novice's bees last winter; they were put away with frost or damp on the combs. If bees are dry and free from frost when put away, they will, with proper ventilation, be free from damp through the winter.

In January of last winter I had occasion to look into my bee-cellar. In one of my hives, containing an Italian queen which I received from Rev. L. L. Langstroth in July previous, I found a small cluster of brood in the centre of the hive. It was about two inches square, and in this a queen cell with a grub half-grown, and by its side a drone grub in a worker cell lengthened out. I did not see the old queen.

After thinking the matter over, and suspecting that I had lost my queen, I opened the hive again three weeks later, and found a medium-sized young queen. There can be no mistake in this, as I had clipped the wing of the old one, which was a very fine large queen of much value. The wings of this young one were perfect.

My bees remained in the cellar until the 26th of March, when two very fine days occurred, and they flew freely. It then turned cold, and I returned them to the cellar, (which I frequently do.) After a week in the cellar I took them out again. In a few days I found this queen had laid worker eggs freely. I expected that this winter-bred queen would be worthless; but she did well, and gave a swarm last summer.

Now, this instance must be one in which a queen, conscious of her approaching decease, had provided for the emergency, though in mid winter and in a dark cellar, by rearing both a queen and a drone to fertilize her; and a fine day occurring in March, she must have flown, and copulation have taken place with the drone reared by her side.

Is this change of queen in winter as rare as is supposed?

W. GILL.

River Falls, Wis.

When robbing has become a habit with bees, they are sometimes so infatuated with it as to neglect their own brood.—Langstroth.

[For the American Bee Journal.]

**Yield of Surplus Honey—in Decimals!**

MR. EDITOR:—Among all the "Wonders of the Bee Hive," there is one that I have never seen treated of or explained in any of the numerous books or periodicals on apiculture. In fact, none of them seem to have noticed it. It is this: In making surplus honey the bees always make a round number of pounds, 5, 10, 15, 20, 25, 50, or some multiple of those numbers. I say "always," though I should perhaps say that it is the rule, which, like all good rules, has its exceptions. But the exceptions are so few that I am inclined to the belief that those who report them are honestly mistaken; or that their bees are not in good condition; or have been wrongly managed; or are in a disorganized condition; or that they guess at it.

Take the AMERICAN BEE JOURNAL and look over the numerous reports of the yield of honey in apiaries all over the country, from one hive up to hundreds, and all of them that are reported with any attempt at exactness prove my position. If I had time I would like to collect them all in a tabular form and present them to your readers, but I will only take the January number as a sample of the whole:

	Pounds.
1st—One hive, in Kane county, Ill.....	25
2d—One hive, in Chicago, Ill.....	40
3d—One hive, in St. Charles, Ill.....	250
(Of this there was extracted with the machine 190 lbs.; box honey, 60 lbs.)	
4th—One hundred stocks and increase, same apiary.....	6,000
(Of this there was machine honey, 3,000 lbs.; box honey, 3,000 lbs.)	
5th—One hive, in Cook county, Ill., and increase.....	50
6th—Seven hives, in Virden, Ill.....	700
7th—One hive, in Fulton, Ill., (machine honey).....	218

There was something seriously the matter with these latter bees; or it may be, as Mr. M. says, "I could have got more if I had employed the machine oftener." He ought to have got at least two pounds more or three pounds less. May be his "honey-slinger" wasted some.

8th—Number not given, Monmouth, Ill., average to each hive.....	110
9th—One hive, Albany, Ill., 4 swarms, and .....	200

If he had had a "smelatore," could get either 50 or 75 pounds more, one or the other.

These were, to be sure, Illinois bees; but they are not different from other bees, as you will find by looking over the reports from other parts of the world.

Here we have reported 114 hives of bees, yielding an average of 65½ pounds, or an aggregate of 7,593 pounds.

Joking aside, I have no doubt about this being an approximation to the truth, as no person acquainted with the parties would suspect them of untruth. It is a loose way we have gotten into of stating things in round numbers, and ought to be avoided.

Other parts of the country do not show as gratifying a return, from the fact that 1869, taking the whole country together, was perhaps the poorest for honey that has been witnessed in many years. Illinois was an exception, and the yields reported show us what we can do in good years with the same intelligent management.

The "Melextractor," it will be seen, aided largely in securing this result.

D. L. ADAIR.

Havensville, Ky., Jan., 1870.

[For the American Bee Journal.]

### Preventing Bees from Killing their Young Virgin Queens.

It very often happens that young queens are attacked by the workers and killed before they commence laying. One of these cases occurred last May in a colony that had been queenless during the winter. Being supplied with a comb of brood it raised a young queen, which hatched about the beginning of May. This queen had not yet been fertilized, when she was fourteen days old. Passing the colony one day about noon, I noticed great excitement among the worker-bees on the alighting board at the entrance of the hive. Suspecting there was some trouble inside, I immediately undertook an examination. On taking off the honey-board it was apparent that the queen was enclosed by the workers, and would be killed. I took out several combs, and succeeded in finding the queen. A good whiff of tobacco smoke sufficed to disperse the enraged workers and liberate the queen, and in a short time all apparently became quiet. Two hours later, however, passing that way again, I observed a renewed commotion. I once more opened the hive, found the queen encircled again, and became convinced that the workers were bent on destroying their queen. In such cases I formerly caged the queen and kept her thus confined for two or three days after rescuing her from the angry workers, and in most instances they were not attacked again when set free. But here I resolved to try a new experiment. I took out a comb, shook off the bees, went to another hive and got a brood comb with unsealed brood, which I inserted. The workers immediately resorted to this comb, and raised a contented hum. Replacing the honey-board, I remained watching the colony a short time. All appeared right now, and the workers seemed perfectly content. On examination, only two days later, I found that the queen had begun to lay eggs, and she was attacked no more. Hence I would advise bee-keepers to insert a comb with unsealed brood and eggs into such colonies as have raised a queen after having been without brood for a long time, as in such cases the bees seem to become impatient for brood.

ADAM GRIMM.

Jefferson, Wis.

The excursions of the bees to collect honey are variously estimated at from one to three miles each, and they are supposed to make each about ten trips a day.

[For the American Bee Journal.]

### Queens Mating with Different Drones.

MR. EDITOR:—I have been a reader of your paper for some time, but have written very little for it so far. As I see it contains a number of articles on the above subject from different sources, I will give your readers some portion of my experience.

In June last, I had a small batch of queens—from ten to fifteen in number—hatched, and mostly in one night. On the third day I saw nearly every one of them passing out and in repeatedly. On the following day I saw them going out and in every ten or fifteen minutes, for some two or three hours, and several of them showed evidence that they had met with the drones. Again, on the next day also, they passed out and in as before, and several of them came in apparently filled full from the drones. On the second or third day, I am not certain which, but think on the third, I was standing in front of my nuclei and something struck on the brim of my hat, and a queen and a drone fell on the ground fifteen or twenty inches before my shoe-toes. They lay there two or three seconds, evidently endeavoring to separate, then rose from the ground, turning around in the manner of a winding blade, striving to separate, till they went seventy or eighty feet; then, they flew up in the air, finally parted from each other, and I lost sight of them. The effort to separate was continuous from the time they fell to the ground till it was successful. On the morning of the eighth day every one of these queens was laying eggs.

I watched the queens several times this summer, and in good weather they would generally pass out and in for three days before they would stop; and I suppose they would meet with a drone or drones every time they would come out. I have no doubt that, in good weather, queens copulate repeatedly with drones, for it appears that they continue in heat for two or three days. In bad weather they get out very seldom, and they can meet a drone in such weather when passing out but once or twice, is it not natural that they will not fail to meet one when passing out so frequently in good weather?

Turn to the BEE JOURNAL for September, 1869, page 57, for a succinct account of observations in this regard, made by Mr. Thomas C. Hill, and it will be seen that the three circumstances there stated are nearly the same as those that came under my own observation—the queen coming out for three days in succession, and in all probability she would have been seen passing out several times each day if she had been closely watched. Now, if queens mate with several drones on these repeated excursions, will not the fact account for the production of variously marked workers—some three and some two banded—from the eggs of a hybrid queen? I would think the progeny of a queen mating with a common black drone, a hybrid drone, and a full-bred Italian drone, would partake of the nature, severally, of these, which would undoubtedly make some two-banded and some three-banded.

I am of opinion that if a full-blood queen mate with a common drone, her drones are affected by



the impregnation, and she will only produce mixed workers or hybrids.

In the December BEE JOURNAL, 1869, page 126, Mr. Rosenstiel refers to Mr. Thomas's new theory given in the June number. I read Mr. Thomas's article, and thought it just agreed with my experience. Mr. Dzierzon is spoken of as being the first to discover the true system or theory concerning the propagation of the honey bee. Now Mr. Dzierzon may be right in his experience, but I think he failed just a little when he took the position that the impregnation of the queen does not affect her drone progeny. I think it affects the drones the same as the workers. Now, if you take particular notice of a full-bred queen mated with a full-bred drone, the drones will show a dark color; and a full-blood queen mated with a black drone or a hybrid drone, the drones will have the yellow bands more beautiful than the full-bred drones. That is my experience of the honey bee, and I write this to aid in ferreting out the true nature of that interesting insect.

ALFRED CHAPMAN.

New Cumberland, West Va.

[For the American Bee Journal.]

### Queens Mating Twice—Sending Queens by Mail.

I noticed in the December number of the BEE JOURNAL, an article from Mr. D. C. Hunt, in which he says that he never knew a case where a queen had mated with a drone when she was not fertilized. He also says he thinks that I am mistaken in what I stated in regard to queens mating twice with drones. Now, friend Hunt, I will give you two instances that I think will convince you that I am not mistaken in what I have said.

Several years ago, a bee-keeping friend, who lives four miles from me, had a queen which he wanted my drones to fertilize, and so kept her in the yard with my drones. In a day or two his queen flew out and mated with a drone, and I happened to be present when she returned to the hive. This hive contained but one sheet of comb, and had glass on both sides for observation. I removed the covers from the glass, watched the bees for some time, and soon saw some of them, with the genitals of the drone, trying to find their way out of the hive. I then covered the glass, and a bee soon came out with it. As this was the first case of the kind that I had seen, I then believed, as you now do, that the queen was surely fertilized. In a day or two my friend came for his queen, and I said to him that she was impregnated and ready to be taken home. We happened to pass along there about the time when queens generally fly out to meet the drones, and, on examining the hive, found that the queen had just returned with all the evidence of having just mated with another drone.

Now, friend Hunt, I might have been mistaken in this case, but I do not see where the mistake comes in.

Here is another case, friend Hunt, where I think I can be equally positive. A bee-keeper from Manchester, N. H., was visiting me, and of

course, I took him into the garden to show him my bees and queen nursery. We came to one hive, and I remarked to him that it contained a queen which was fertilized two days before, and that we should probably find her laying eggs. I opened the hive, but could find neither queen nor eggs. After looking the combs over thoroughly, I closed the hive and stepped back to one side, and the queen soon went in. She also had just mated with a drone. Now, friend Hunt, I am sure that this queen mated twice with drones.

I should not suppose that any one who has had any experience in queen rearing would doubt that such cases will happen once in a great while.

I had twenty-four queens that were fertilized as late as the 1st of October, 1869. I shipped between 400 and 500 queens by mail last season. About seven per cent. of them were lost or stolen, or perished in the transit.

On the morning of the 4th of October, I mailed twenty-one queens, and all of them perished; not on account of cold weather, but because of a very severe storm that prevailed throughout the New England States, washing away railroad bridges and otherwise damaging railroads. They were in the mail-bags for more than a week before any of them reached their destination, and some of them never reached the parties to whom they were sent.

Mr. A. Burton, of Harpers, mailed a queen to me as late as the second week in November, and we had at that time the coldest weather of the month; but the queen and nearly all the workers reached me alive, though they were "laid up" in the Boston post-office over on Sunday. Some of my customers supposed that queens cannot be sent by mail as late as the month of October. I know that they can, if they are not kept in the mail-bags until they starve. I sent them very late in October into the State of New Hampshire, and they were several days in the mail.

H. ALLEY.

Wenham, Mass., Dec. 14, 1869.

[For the American Bee Journal.]

### Observations and Experiments.

MR. EDITOR:—This is my first year of bee-keeping, and of course I have been exceedingly interested in the study of their habits and the most successful management of bees; and for this purpose it seems to me your JOURNAL is a *sine qua non*.

I commenced with two hives, and have increased them by swarming and purchase to nine. Of these I have Italianized six, simply by removing the black queen and immediately introducing the Italian queen, after smoking the hive for a few minutes with tobacco, and dipping the queen in honey. They were all accepted, and only two made any queen cells which had to be removed. I say all, though there was one exception. I introduced a small queen, on the last of September, to a hive which had been without a queen for two weeks, having previously removed all queen cells by smoking, and without dipping her majesty in a honey bath. The next day I found her dead, in front of the hive.

I lost one queen—the first one I introduced—by being somewhat sentimental, for, thinking it cruel not only to displace the mother, but also to crush her, I *set her up* as a sort of queen dowager on a small scale, in a nucleus hive well stored with honey and a handful of her own subjects, behind the barn and some rods from her old hive. But in a few hours I found the little hive abandoned, and on going to the old hive, her Italian majesty was dying on the bottom board, and her rival had again taken possession. Now as she was an old queen, and had been raised some miles away, I concluded she must have been guided back by the bees which I had given to her.

I have put my hives in a dark dry room (cemented) in the cellar; but find it difficult to keep the temperature below 42°, although it does not rise to 45°. I am wintering one swarm out of doors in a refrigerator hive. It was an old-fashioned box concern, large, and the sides double, filled in with charcoal, opening with a lid from the top, and had been stowed away for years as useless lumber in the cellar. It occurred to me, why not turn it into a bee-hive? I soon had an opening made in one side, four inches wide through the zinc, and double walls, and fitted close the entrance with thin strips of boards to keep the charcoal in place. I then made a regular hive of  $\frac{3}{4}$  inch boards 19×18 inside, and placed in it twelve frames with a very large swarm, which I obtained from a bee-tree in the woods, in September, by the kindness of a bee friend, who invited me to the "taking up." I will not recount to you the trials and wettings, and tearings in following the bee-hunter through the cedar swamp and tangled brush to his prize. Enough, that, after the tree was opened, I found her majesty sitting on a comb alone. I put her in an old bucket, brought for carrying away the honey, and held it at once to the hole where the comb had been taken out, and soon the swarm (which was large) was collected around her. It was too late in the season for them to gather any honey; I therefore fitted empty combs in the frames, and when they had fastened them, filled the cells with about two gallons of honey. As there is room enough within, on the sides of this refrigerator hive for seventy-five pounds of box honey, and for as much more on the top; and as I intend to Italianize them, clip the queen's wings, and use one of QUINBY'S queen yards in the spring, I hope to be able to report success next fall.

In this section of Massachusetts there are no Italians, and no movable frame hives. We are nearly all old fogies, and the bees for a few years past are of course *dito*. I did not intend, when I began to furnish you with so much, but perhaps some of your readers may have some old refrigerators out of use. If so you can recommend them as being good to keep the bees cool in summer and warm in winter.

E. P. ABBE.

New Bedford, Mass.

The third swarm usually leaves the hive on the second or third day after the second swarm, and the others at intervals of about a day.—*Langstroth.*

[For the American Bee Journal.]

### Comb Frames to stand on Bottom Boards.

On page 118, vol. 5, of the BEE JOURNAL, a correspondent asks for Mr. Quinby's plan for using strips of tin, and causing frames to stand on the bottom board. I do not know how Mr. Quinby's hive is constructed, but will try to tell the readers of the JOURNAL how I have attained similar results.

In order that my description may be understood, it will be necessary to describe a part of Adair's section hive. In doing so, however, it is not for the purpose of recommending his or any other patent hive. I do not know what is covered by his patent, as I have never seen his claims stated.

The brood chamber in his hive is formed of vertical sections or rims, each one and a half inches wide. They are nailed together, one nail in each corner, the top and bottom pieces to the ends of the side pieces, and projecting in front three-sixteenths of an inch, and setting back from the edge of the side pieces the same distance in the rear. When two of these sections are placed together, the projections of one fit over the shoulder of the other, thus holding them true horizontally. The sections can be made of any desired dimensions. Ten inches deep and thirteen inches wide, in the clear, is the usual size, I believe. In addition to these, there are two shallow sections, or frames, made of the same size, and filled with glass or wood to close the ends of the brood chamber, which, besides these, should contain ten or twelve sections, according to the size used. The frames or sections run from side to side. The honey boxes are formed in the same manner, and composed of similar sections, only smaller, usually five by six inches in the clear.

Now, I allow for the brood chamber, the tops to project over the ends of the side pieces three-eighths ( $\frac{3}{8}$ ) instead of three-sixteenths of an inch. The slats to form the sections should be half an inch thick, and one and a half inches wide. Set your gauge three-eighths of an inch, and having cut your slats the length required, make a gauge mark three-eighths of an inch from one edge of each piece; then, with your knife, chisel, or whatever tool you use, commence within one-fourth of an inch of each end of the piece on the edge on which the gauge mark was made, and cut sloping toward the centre of the piece till you reach the line made by the gauge. This will leave the slat one and a half inches wide at the end, forming a right-angled triangular bracket-like projection at each end. Now, have another triangular somewhat saw-toothed projection in the middle of the slat, to support the strips of tin. Do the same with top, bottom, and side pieces. You will now have your slats one and one-eighth of an inch wide, except at the ends and one point in the middle, at which points they are one and a half inches wide. Now, in putting them together, nail the tops and bottoms to the ends of the side pieces; place them so that the projections of the side pieces will be toward you, and the projections of the top and bottom pieces from you. Allow the

projections of the top and bottom to extend over the ends of the sides three-eighths of an inch (the depth cut out) in front. When thus put together, you will have sections or frames one and one-eighth inches wide, (the straight portions opposite each other,) the projections of the top and bottom directed backward, while those of the side pieces are directed forward. When these frames are put together, you will have the projections at the ends of the tops and bottoms fitting over the shoulders of the sides of the next sections, and against the straight side of the next top and bottom pieces. Now procure strips of tin or thin lumber, and tack or otherwise fasten them on the outside of the projecting points and flush therewith, thus covering the openings made by the wood removed. Place as many together as will form a hive of the dimensions required; add shallow frames containing glass or wood; close the ends, and you will have a closed box or brood chamber. A narrow strip of tin on each side, extending across all the sections and fastened to the terminal ones with the aid of the shoulders, will hold all firmly together. Now if you wish to use section honey boxes, use slats as thin as possible; cut out one side of each piece, the same as for the brood chamber, only omit the central projections. In putting together, allow the tops and bottoms to extend only three-sixteenths of an inch for shoulders in the honey boxes. Add sections until the box contains the same number as the brood chamber, and close the ends with shallow frames with glass in them. When you wish to use the boxes, remove the strips of wood, closing the holes in the brood chamber, and place two boxes on each side, so that the openings will match. Allow the boxes to communicate with each other, as well as with the brood chamber; place two boxes on top; or if you want still more box-room, use two tiers on the top and three on the sides, allowing the third tier on the sides to communicate with the first tier on the top, as well as with the tier beneath them. This will give you ten boxes, the length of your brood chamber, all of which can be separated into sections containing one comb each, and holding in the aggregate, if they are five inches high, six wide, and eighteen long, (twelve sections,) one hundred and eighty (180) pounds.

By this arrangement the combs in the boxes are but an extension of the corresponding combs in the brood chamber, and every comb in the boxes will be on a line with the corresponding comb in all the other boxes and the hive—forming as it were one sheet of comb, divided in the boxes into pieces 5 X 6 inches. The spaces between the combs being continued through the whole series, the corresponding combs in all would seem to the bees but an extended single comb. This would, no doubt, cause brood to be reared at times in some of the sections of the boxes; but as each comb can be separated from the rest, all sections containing brood can be formed into a box, the brood allowed to hatch, and the combs be used as guides in other hives. Instead of allowing the frames or sections of hives and boxes to rest directly on the bottom board, they should be placed on strips of wood

$\frac{1}{2} + \frac{1}{2}$  inch, nailed to the bottom board. And if desired, the strips of tin or wood connecting the bottoms of the sections can be omitted, and the bees allowed to pass under the bottom pieces, as in suspended frames.

For wintering such a hive in the northern States, it would be best to make a plain box, without bottom, and with one end left open, of a size that would fit closely over the brood chamber, and could be so placed after the boxes are removed. I have not attempted to describe any form of outer case for the hive and boxes, or to give any definite dimensions, only designing to give the essential features peculiar to this hive, expecting every one to be governed, in regard to size, &c., according to his own experience and judgment, locality, &c. The principal objection suggested to the form of sections used by Mr. Adair was that bees would be liable to be crushed in closing them, as in the leaf hives of Huber. By cutting out, in the way explained, I have attempted to remedy this fault. It will be impossible to crush a bee, except it be directly under one of the points when closing, and these can be made so small as to make it almost impossible to crush even a single bee. The strips of tin or wood do not close *against* another surface, merely reaching *opposite* the outer corner of the next section. I prefer strips of wood about three-fourths of an inch wide, so fastened as to be easily removed, as they will not be used during the honey harvest, except on honey boxes, for closing such apertures as do not communicate with the hive or another box. It is not absolutely necessary that the sections forming the boxes should have a portion cut out on all sides, top and bottom, only removing on the sides, top or bottom, that may communicate with other boxes or the hive—leaving the rest closed. But I prefer having all honey boxes alike, so that they will fit wherever placed, and close with a strip such sides as are not wanted open. A hive of this form can be made up to any dimensions, by adding to it on the sides and top, and yet no piece of comb without the brood chamber be larger than five by six inches.

As I said before, I do not know Mr. Quinby's plan of hive, but can scarcely doubt that his is better than mine. Yet, since making some of these hives, I find them so easily made, work so easily, and affording as they do unlimited expansion, I prefer them to any hive I have ever seen. If experience confirms my expectations, they will at least prove superior for surplus honey. For raising queens and building up colonies, I doubt if any thing can excel Mr. Gallup's form of hive, but unfortunately it affords poor facilities for obtaining the largest yield of surplus honey. And this is the case with all the forms of suspended frame hives. I feel confident that frames so arranged as to be independent of an outer case for their support, will in some form be adopted into general use, sooner or later. There are two faults which all loose frames have, one of which seems to be irremediable. The first objection is their want of stability, being unfit for transportation; the other is, the vacant or unoccupied space around the combs—not because the circulation of air is detrimental, but because it affords



a vast amount of room for idle bees to loaf in, when they should be at work in the boxes. In the best forms of frame hives this loafing space amounts to one-fifth or one-fourth of their whole capacity. We want a hive in which the bees will all be compelled to stay on the combs, or in spaces in which combs are to be built. For those who desire to raise queens, or rapidly multiply stocks, it would be well to have a long Langstroth hive, that could be divided into four apartments when necessary; and by having an entrance at each end and one on each side, communicating with the respective apartments, there would be no risk of losing queens by mistaking the wrong entrance. The frames could be made of the proper size to fit in the sections, after sawing off the projecting shoulders; then, as stocks were built up, they could be transferred into the section hive above described, and the case of the long hive used for other nuclei.

As to the right to use the hive I have attempted to describe, it is and ever will be free from patent, so far as I am concerned. Whether it necessarily conflicts with Mr. Adair's patent, I do not know. I purchased an individual right to use his hive and boxes, as his price was moderate and he seemed fair in his business transactions. I procured the right principally on account of his honey boxes, as they are almost indispensable in our markets; the sections forming a box of themselves, having the advantage over small frames of protecting the surface of the comb from injury, and yet being divisible into single combs, the same as frames.

There is probably no greater happiness to a good and true man than that of being serviceable to his fellow creatures, without the hope of fee or reward. Let us, therefore, all try and contribute our mite, that we may perfect a hive and system of bee-keeping free to all, and cease to patronize the cormorants that have for years plundered the industry of the country. Cease to patronize patents, and they will soon cease to be the disgusting nuisance they now are; and perchance we may be able to induce patentees themselves to adopt some other policy. The honey-emptying machine has (thanks to the Germans) come to us untouched by the grasping hands of patent venders; and its rapid success gives hope of improved hives and system of bee-keeping, if free and unpatented.

I fear I am occupying too much of your space, yet I cannot refrain from whispering a word of advice to one of your correspondents, hailing from Des Moines, Iowa. He has written three communications, (some dozen columns in all,) to show, among other things, that the bee-cholera or bee-disease prevalent last year, besides every other ill that bee "flesh is heir to," was caused by the want of a certain-to-be patented hive. And by reference to the September number we find the very contrivance he is "talking" about, described by Mr. Owen Davis as the "Double Combined Movable Comb Hive," patented in 1867, and yet pending. Now if Mr. D. will turn to page 553 of the Report of the Department of Agriculture for 1863, he will find his contrivance described by Mr. Richard Calvin, of Baltimore, Md. I could add some other facts

to show that the use of two or more frames, placed within one larger one, is not new; but as I have neither seen or heard of any "startling wonders" resulting from their use, I dismiss the subject, as undeserving further consideration.

I have something more to say on the subject of patents, which, with the indulgence of the Editor, I may give in another communication, as this one is full long already.

Will not Mr. Quinby favor us with a description of his hive, if experience has confirmed his judgment as to its utility? Most bee-keepers have entire confidence in his honesty and unbiassed judgment; why then not sacrifice the time and trouble necessary to attain so great a good?

J. M. WARDEN.

Mobile, Alabama, Dec. 28, 1869.

[For the American Bee Journal.]

### Disturbing Bees.

What is the average number of times a good bee-keeper will "go into" (open the hives and examine) his bees, in the course of the season? —J. G. W., *Chillicothe, Mo*, July 25, 1869.

A good bee-keeper can generally tell if anything is needed by his stocks of bees without "going into" his hives; and, generally, need not "go into" them more than four times during the season: Once in the spring to clean the hives and regulate the combs, bees, honey and brood—that is to equalize them; then once or twice at swarming time, and once in the fall, to see that they are all right for winter. The latter time or trouble may be avoided generally by previous diagnosis, without "going into" the hives.

It will pay a better bee-keeper than I am to "go into" the hives, say once a week, unless his time is worth more than one or two dollars a day, as he will see places and items that may be improved; and he may study and work out something valuable, as there is no branch of science that has yet reached perfection.

If the operator can learn nothing by opening a few hives every day for six months, he holds an enviable position. I would like to see a person so far in advance, or so far behind others, that he cannot learn something more. Even if he should learn nothing from any one operation, he may console himself by the reflection that his time has been more profitably occupied than it would have been by frequenting saloons or places of dissipation, to the neglect of his stock or his home.

J. M. MARVIN.

St. Charles, Ill.

If the spring is not favorable to bees, they should be fed, because that is the season of their greatest expense in honey, for feeding their young. Having plenty of honey at that time, enables them to yield early and strong swarms.—*Wildman.*

Beware of demoralizing bees, by tempting them to rob each other.

[For the American Bee Journal.]

**Amateur Bee Culture.**

Although much has been written on the science of bee culture, yet but few of those who engage in it meet with success. It is with bee-keeping as with every other branch of industry, those who engage in it must understand it, if they expect to succeed.

If one desires to engage in bee-keeping, he should, in order to be successful, thoroughly acquaint himself with the nature and habits of the bees. He then understands how to select a situation for an apiary, and provide for their wants. He sees the advantages of frame hives, and is enabled to select intelligently from the many placed before the public. Like a master builder who thoroughly understands his work, he commences bee-keeping, knowing what to do. Such a one is sure to succeed. In my experience, however, I have found only now and then one who commences in this way. Ordinarily, almost every one commencing to keep bees is entirely ignorant of their nature and habits, and frequently all the knowledge acquired is got by slow experience. Is it a wonder, then, that so many bee-keepers fail to be successful? Let any one who intends to keep bees first purchase some practical work on bee-keeping and thoroughly read it, acquainting himself well with the theory before he commences. Let him, in commencing, purchase not more than two or three colonies; and even then he will find his bees increasing faster than his experience. It is a sad mistake that many fall into, when commencing bee-keeping, to purchase a large number of stocks. It will not do for one comparatively well read up in bee-keeping, but has not the experience, much less for one who has no knowledge whatever of bee culture. A few years since a man entirely ignorant of bee culture was suddenly attacked with "*bee on the brain*," and as a remedy purchased a thousand colonies and commenced bee-keeping with visions of honey before his eyes; and the result was he failed. Several similar instances have come under my observation, even when only fifteen or twenty colonies were purchased. Two or three stocks are quite enough to commence with, and they ought not to be purchased unless one has some knowledge of bee-keeping, or at least a practical work to guide him. But with a fair knowledge of bee-culture and the use of frame hives, rightly constructed, success in bee-keeping is certain, when proper attention is given to it.

Brooklin, Ontario.

J. H. THOMAS.

The greatest favorites of the bees, in early spring, appear to be the catkin-bearing shrubs and trees, the willow, hazel, osier, &c., from the male flowers of which they obtain the pollen, and from the female the honey.

In working among bees, woollen gloves or mittens are objectionable, as everything rough or hairy has an extremely irritating effect upon them.

[For the American Bee Journal.]

**History of our Honey-Emptier.**

MR. EDITOR:—Your readers call for facts rather than fancies, though most people take more pleasure in relating their successful exploits than their failures, and it is easier to write theories than to practice them.

I think as much can be learned from an account of a failure, as from a success, if the reasons for the failure are given. Therefore I think correspondents should give both sides of the question and I will endeavor to do so myself.

That we must have a honey-emptier was a settled question, but how we were to make it was another thing. The JOURNAL contained the bill of stock required in making several different styles, none of which just suited.

We could not get a suitable tin-can made here for less than four dollars, so we devised a plan similar to that described in the last number of the BEE JOURNAL, as patented by Mr. H. O. Peabody, only we did not carry the idea quite so far as he has done.

We made the "basket" of gauze wire and hoop iron riveted together and fastened to the standard with iron braces. We then made two shields of tin to go over the two sides, covered with wire cloth, in order to catch the honey and conduct it to a shallow tub in which the whole thing was to revolve. When ready for use we brought in some well filled comb, but found that we had not got the joints at the corners tight enough to keep the honey from flowing on the floor. As we wanted to use the machine immediately and had no tins for the remaining two sides, we concluded to dispense with the tins entirely, and putting it in a wooden cask, try it in the "good old way."

We supplied it with the gearing of an old apple parer, and very soon extracted one hundred pounds of buckwheat honey.

Our only trouble now was in uncapping the cells. We tried everything within our reach, from a razor to a butcher knife, but in all made rather bad work. We then concluded that somebody must have for sale knives suited for the purpose, as correspondents, in describing the workings of their machines, say nothing of trouble in this direction. We looked over the advertisements in our BEE JOURNAL, but could not find them mentioned. Thinking that Mr. Langstroth would be apt to keep them, if anybody did, we enclosed him a two dollar note, with a request to send one by mail, if he had them. The money was immediately returned, with a note stating that he had none on hand, but thought we could procure one from Mr. M. M. Baldrige, St. Charles, Ills. We accordingly enclosed two dollars in a letter directed to Mr. B., requesting him to send us a knife as soon as possible, as we wished to use it immediately. This was about the 25th of September, and after waiting patiently about two weeks our hope of ever seeing knife or money again began to vanish. We then sent him another letter of inquiry in regard to the fate of the first.

Some time before this, our friend Mr. S—, of this place, invited us to come up and try our

machine on some honey which he intended to "take up," as he wished to save the comb to use in some of his frame hives. We informed him that we had sent for and daily expected to receive the knife, without which we could do but little. Two weeks more passed away, and we neither heard from our money or the letter of inquiry concerning it. Friend S. had taken up his bees, (I am sorry to say that this system is still practiced in this neighborhood,) and was ready for us to make our visit with the machine. He thought that his father had a knife which would answer the purpose, and as I was to go by his house I was to stop and get it. Accordingly I loaded up the machine and started, but when I came to stop for the knife, the old gentleman informed me that the one he had was nothing but a piece of hoop iron ground off to cut cheese curd and would probably not suit our purpose.

Arriving at the scene of action, the machine was set up and the honey brought out. We first tried a frame with a thick comb of buckwheat honey, which had been taken from the hive some time previous. After having had two hands at work on it for about half an hour, it was pronounced "uncapped," although it looked as though mice had done it. It was put into the "Extractor" and the process of whirling began. But we had forgotten that we must have another comb on the other side to balance it, as it was very thick and heavy. So another half hour was spent in *uncapping*, and then the turning again commenced. But the honey did not seem inclined to fly. We just began to see the difference between taking honey directly from the hive in warm weather, and taking it from a cold room, where it had lain until it was as cold and stringy as tar. That our honey must be warmed seemed self-evident. So it was taken out and perched upon a box behind the stove to warm, while we directed our attention to uncapping combs taken from the hives.

It was now getting well on towards nine o'clock. Mr. S. was to start for Scranton early next morning, and intended taking the honey there to market. Six or eight hives were piled up in the room, ready to have their contents "extracted," which, of course, it would not take long to do *by machinery*! Mr. S. remarked that "the frame behind the stove must be nearly warm enough," when "spat" went something in that direction, and on looking, it was found that the honey had got warm, broken from the frame, and fallen down in a heap behind the *wood-box*! This so excited him that he knocked the lamp chimney off with his knife, and dropped another piece of honey on the floor. After trying until all concerned were satisfied we drew from our machine about one pint of strained honey, to say nothing of what was *drained* on the floor. In fact we had a *sweet* time generally. We came to the conclusion that *cold* honey in *new* comb, uncapped with a butcher knife, was not just what the "melextractor" was calculated for. Take the honey from the hive before it is capped, or get it decently uncapped in warm weather, and it works like a charm.

Two or three days after this, I (very unexpectedly) received a letter from Mr. Baldrige, dated October 25th, containing fifty cents, and stating that he had a style of honey knife which worked satisfactorily, which he sold for one dollar and fifty cents, and that he would mail one to us some time "this week." About two weeks after this I received a—*honey knife*. It is made out of the best quality of *wrought iron*, fastened into a common turned wooden handle with melted lead. Mr. B. says it will work satisfactorily, and I hope it will, as that is all that will be required.

Will those who successfully use the "Smelatore," and know how to uncup the cells for its use in any decent length of time, please describe the *modus operandi*? With us it is the one thing yet needful. I have not yet had a chance to try the knife received from Mr. Baldrige, as it reached me so late in the season. Though it may work well, I must say to him that I do not admire his style of punctuality, as I think *six* weeks altogether longer than necessary to get returns from Illinois.

Mr. S., I believe, concluded to sell his honey *in the comb*, probably consoling himself by thinking that it would carry nicer and sell much better in that shape.

I. F. TILLINGHAST.

Factoryville, Pa., Jan. 4, 1870.

[For the American Bee Journal.]

### Superseding Fertile Workers.

MR. EDITOR:—On page 144 of the January number of the JOURNAL, I see an article from Mr. John S. Rose, in which he gives his mode of treating a colony of bees containing a fertile worker. He states that he was successful in introducing a queen, after subjecting the colony to a dose of puff-ball smoke. Having less faith in that kind of treatment than I perhaps should have had, I did not test its merits in either of the cases to which I am about to refer; nor do I know that I ever will test it, so long as the mode of treatment to which I subjected two colonies, during the past season, proves successful.

The first was a colony which, from some cause unknown to me, lost its queen in the latter part of March. They failed to rear a young queen, and in a short time I found eggs deposited in the cells of both worker and drone-comb. I found as many as four eggs in one cell, and on close examination I was satisfied there was nothing in the shape of a true queen in the hive. This further convinced me that I had a fertile worker to deal with, or some kind of an egg-laying creature or creatures that did not properly understand the bee-raising business—there being more eggs laid in one cell than could be matured in so small a space. How to get rid of this kind of egg-laying creature puzzled me exceedingly. I thought of puff-ball, but being too much of a sceptic with regard to its effect as a remedial agent in such cases, I determined to adopt some other mode of treatment. It being early in the



season, I had no queen to give them. I therefore gave them, from another hive, a frame containing worker brood in various stages of development; having first taken from them such combs as contained eggs laid by fertile workers. They at once took possession of the brood which I furnished them, and reared a queen which became fertile. Thereafter the colony began to prosper, and continued to do so through the season.

Later in the season, I removed the queen from another colony and inserted a queen cell in her stead. The young queen hatched, but was lost I suppose on her bridal tour, as I never saw her after she was five or six days old, although I looked for her repeatedly, thinking she might possibly have escaped my vision. But being finally convinced that there was no queen in the hive, and finding, several days after the repeated searches, eggs deposited promiscuously in the cells, and ranging in number from one to half a dozen in a single cell, I was convinced that I had another case of the fertile-worker complaint to deal with. I began operations as in the first case, by taking from them all the combs containing eggs; but, instead of giving them worker-brood, as in the previous instance, I gave them a finished queen cell, which they destroyed. I repeated my former operation by giving them another, which was received and the queen hatched. As in the other case, she became fertile, and brought out the colony in a prosperous condition.

How such a course of treatment would answer in another case of the kind, I am not prepared to say; but that it has proved successful with me in two instances is certain. Nor do I pretend to know more about the philosophy of this kind of treatment (if treatment it may be called) than that connected with the use of puff-ball. Still, I have wondered since my success in those two cases, whether it may not be that all colonies (and especially the Italians, which always defend themselves when queenless with admirable vigor) become very hostile to all strange bees or queens, and refuse to recognize them until they are themselves severely dealt with by the use of puff-ball or of some other stupefying agent. I wish to state here that I do not believe that in either of the above cases all the eggs found were laid by one fertile worker. I know that in the period of twenty-four hours there were more eggs laid than could possibly have been laid by a queen at the head of a populous and in all respects prosperous colony. Besides, during my searches for a queen in those two cases, and especially when I was about convinced that there was no queen present, and began to think of and look for a fertile worker, it occurred to me that if fertile workers come, as it is claimed they do, (namely, by accidentally or otherwise being fed on a small amount of royal jelly) they ought not only to resemble a queen in disposition, but also in shape and locomotion. Thus it was these features I looked for, and I also thought I might possibly find her engaged in the act of depositing eggs, if neither of the above-named marks of difference would enable me to find her. I therefore set myself to searching, and after some time

felt confident I had found her; and I yet believe that I found some, but not all. Her conduct somewhat resembled that of a queen while she was walking over the combs; the bees also appeared to bestow upon her some of their usual marks of honor and distinction. But in shape she bore no resemblance to a queen. After walking over the combs for a time, I discovered her looking into a cell and afterwards insert her abdomen in it like a queen in the act of ovipositing. I caught and killed her, and then looked for more, which I found engaged in similar acts as the first. Now, to satisfy myself about this matter a little further, I opened several other hives containing fertile queens, and in no case could I discover a worker endeavoring to play queen by crowding her abdomen deep down into a cell, as though she meant to lay an egg.

These observations led me partially to the following conclusions: *First*, that in cases where Italian colonies lose their queens during the breeding season, we are almost sure to find fertile workers. *Secondly*, that in all such cases we may look for not only one fertile worker, but we may expect them to be numerous, or that there will at least be several found in a hive. And *thirdly*, that by subjecting a colony to such treatment, such as the smoke of puff-balls or other stupefying agents, they almost invariably accept a fertile queen, and the deposit of bogus eggs ceases. I further conclude that if all their combs and eggs are taken from them and worker brood given, they will rear a queen, and by repeated efforts they may be induced to accept a queen cell, provided the young queen therein has not yet begun to pipe. If she has, I think the bees will be likely to destroy her, unless they be first stupefied.

Just how the fertile workers originate I do not pretend to say or know, but I suspect that if any get the royal jelly during the grub state quite a number get it. And it may be that where a queen is taken from a colony the bees give such food to many larvae, and as a result raise no queen. I hope that bee-keepers who may have such colonies to deal with, will put them in observing hives, and by repeatedly noticing their conduct ascertain if possible what kind of bee or bees lay those eggs. I do not claim by what I have observed and have related, to have definitely established the fact that these eggs are laid by common workers, although I have strong suspicions that many workers do possess the ability to lay eggs, and will do so when the colony is not in possession of a fertile queen.

If opportunity should be afforded me during the coming season, I will endeavor to look a little further after the fertile-worker part of the bee creation, and if possible ascertain under what kind of circumstances such colonies accept of queens or queen cells. And I should be pleased to find out certainly under what circumstance, or from what causes, they reject them. Now this may be more than any bee-keeper (myself not excepted) may ever be able to discover, but I shall endeavor not to injure the profession of bee-keeping in making my observations.

GODFREY BOHRER.

Alexandria, Ind.

[For the American Bee Journal.]

**Is there a Four-banded Variety of Italian Bees?**

The Baroness of Berlepsch, in her "Five Questions Answered," vol. 5, page 141, of the BEE JOURNAL, answers question 1, respecting the "three yellow bands," thus: "The Italian bee, bred in Italy, has generally but two yellow bands, and, including the narrow strip next the thorax, three. But Dzierzon has raised a much more beautiful race. The workers of his full-blooded bees have three yellow bands, *exclusive* of the narrow strip."

This statement must be surprising to a number of queen-breeders who have purchased from Dzierzon. A queen bee which Rev. L. L. Langstroth showed me on my visit to his apiary, five years ago, as one imported from Dzierzon, had no such worker progeny. The workers showed only three bands, the narrow strip near the thorax included. They differ only from those reared by myself from direct imported queens in having a brighter color, and with the third stripe somewhat wider.

Italian worker bees reared by Mr. Dathe, in Eystrup, Hanover, (whom I visited on my trip to Italy, two years ago last September,) reared from a daughter of a queen purchased from Dzierzon at one of the great Bee-keepers' Conventions in Germany, had no more and no wider yellow bands than my own Italian bees which I had taken along for comparison; and those had but three bands, the narrow strip included.

Shall we draw from such facts the inference that Mr. Dzierzon sells and sends off as full-blooded, stock that is not such? I, for one, cannot do so. I am well aware that occasionally a queen is produced, some of whose workers show, when much extended, a very narrow fourth band; yet I cannot believe that Dzierzon would sell an inferior queen, whose workers do not come up to the standard of full-blood Italians. But no correspondent or writer has ever, to my knowledge, made such a statement as that of the Baroness of Berlepsch. The Rev. Mr. Kleine, in his article on the purity of Italian bees, (BEE JOURNAL, vol. 2, page 17,) says: "Those workers are pure whose first three abdominal rings are bright-orange or buff-colored; the first being slightly, the second more strongly, and the third broadly bordered with black, while the terminal rings are fringed with a gray or whitish down." Dathe, another celebrated German apiarian and breeder of Italian bees, in his pamphlet "Directions for Italianizing and breeding the Italian bee," page 9, says: "Of the three abdominal rings of the worker-bees, the first two are orange-yellow colored; the third one, according to greater or less purity, is more or less yellow or whitish; the succeeding ones are whitish." Neither he nor Mr. Kleine anywhere remarks that Dzierzon's bees have *four* bands, or three without the narrow one near the thorax. I think it would have been the duty of both of them to mention it, if it were so; and they there doubtless as well acquainted with the markings of Dzierzon's Italians as the Baroness, since each of them procured queens from him repeatedly. It is my opinion,

therefore, that the Baroness must be mistaken in this matter. If, however, Dzierzon, or anybody else, has succeeded in propagating Italian queen bees, all of whose workers have four yellow bands, and whose queen progeny—daughters, grand-daughters, and great-granddaughters—again produce similar four-banded workers, then I should like to purchase a queen from such a stock; provided she be as prolific as Italian queens whose workers show only three yellow bands.

A. GRIMM.

Jefferson, Wis., Jan. 10, 1870.

[For the American Bee Journal.]

**A Bee Puzzle.**

In the December number of the BEE JOURNAL, page 117, under the head of "Introducing Queens," a correspondent is puzzled, and so am I. But he is puzzled in a different manner from myself. In his case the introduced queens were the ones that produced the eggs. Of this I have not a particle of doubt. I have had at least twelve cases similar to the one he mentions. In October, 1863, after the native queens had stopped breeding, I removed five queens, and introduced hybrid queens in their stead. These queens were accepted apparently all right. All five commenced breeding; and, in from eight to twelve days, four of the queens were destroyed, and young queens raised from the introduced queen's eggs, in from twenty-four to thirty-one days from the time the queens were introduced.

These being the first cases of the kind, I did not observe as closely as I should have done. But, since then, I have had the best opportunities for observation. In twelve cases of introducing queens, when the native queen was not breeding, I have finally lost all but two. I have in those cases introduced the queens by various methods, so that the mode of introducing did not have any influence on the results, so far as I have been able to observe.

August 12th, 1869, I received a queen from Dr. T. B. HAMLIN, of Edgefield Junction, Tennessee, by mail; and she was as handsome a queen as I ever saw, of a bright golden color throughout the entire length of the abdomen—the very apex of which was only slightly browned. I introduced her to a hybrid stock. There was no brood in the hive at the time of introducing her. She commenced breeding very rapidly, and I examined her daily for five days after introducing her. On the ninth day I examined again, and she was gone. She had filled four frames full of eggs. There were five queen cells started, and an egg in each. Those five queens all hatched out, and were perfect duplicates of their mother. Four of them were lost in being fertilized, and one proved to be a drone layer. (Here I may remark that I have only succeeded in having five queens properly fertilized this season.) The workers from the old queen were perfect beauties. What puzzles me is this: in introducing a queen at any time when the queen is not breeding, or when there is no brood in the hive, why do the bees accept her temporarily, feed, nurse, and pay every attention to her, and then, after the lapse of from

eight to twelve days, destroy her and raise another from her eggs? If they are satisfied with her for eight days, why not for eight months? I have not been able to solve this question, though it has puzzled me not a little.

I may here state, that I have had considerable correspondence with Dr. HAMLIN, and do not hesitate in recommending him to the confidence of the public, as a queen breeder. Many of us will want queens early, and he can furnish them from one to two months earlier than any northern breeder. Every good honest breeder added to the list is so much gained by the public; and judging from the inquiries already received, the demand for queens next season is going to be fully up to the supply.

E. GALLUP.

Osage, Iowa.

### The Dripping Honey-Comb.

Did you ever reflect that the great woods about us, where we delight to hold our picnics and take our summer walks, used to be infested by many hurtful wild beasts? Yet we never hear of a bear, or a panther, or a wolf being met in them now. It is hardly possible that they have retreated in a body before the face of the white man, as the Indian has, but they have been exterminated. We can never realize the hardships and dangers our forefathers passed through to make this pleasant land such a delightful home for us.

We can see, too, the might of civilization, and the powerful resources it can bring to oppose all the cunning and all the strength of the fiercest wild beasts. A little winged bullet can deal a death-blow to the powerful panther or to the enraged bear. Even a watch-fire will keep the wolf and various other animals at bay the whole night long. God gave to man dominion over all the beasts of the field, and even the fierce lion and tiger have been tamed by his skill; yet is it not strange when men can do so much that they have never invented some way of taming that unruly member, "the tongue?" "But the tongue can no man tame," saith the Apostle James; "it is an unruly evil, full of deadly poison."

Oh, what bitter, angry words sometimes roll off from it so glibly! How they set on fire whole communities, and work a mischief that years cannot undo! There is only one way to master it. That is to give it all up into the control of the Lord Jesus. He can tame it. He can keep the lips pure from all evil-speaking. He can put into the mouth only pure, good words, that shall do good to all men.

"Pleasant words are as a honey-comb, sweet to the soul and health to the bones."

Every child knows how nice a clean white honey-comb is, with its dripping pearls of sweetness. But oh! it is not half as sweet as those lips which drop only the pearls of loving, gentle words.—*Child's World*.

Water is indispensable to bees when building comb or raising brood.

[For the American Bee Journal.]

### Several Items.

#### INTRODUCING QUEENS SAFELY.

Place a drop of the same kind of scented honey or feed that the bees are fed with, on the queen's head only, so as to cover her antennae. Then the bees cannot recognize her, at least until they remove the feed, and by that time they are in no disposition to sting. Whereas, if the feed be dropped on any other part of her body, it annoys her; and she does not like to be assisted unless the obstructions are on the head.

#### YOUNG QUEENS.

Are there cases of young queens being fertilized at the time of or before going out with a swarm?

#### MORE QUESTIONS.

Do bees work on the different varieties of the wild mint, or the kinds cultivated for distillation or other purposes? If so, what is collected, and what amount?

Do bees work on the Osage Orange, the Black Locust, (three-thorned Acacia,) or the Mountain Ash?

J. M. MARVIN.

St. Charles, Ill.

Bees gather honey from all the mint family, but none of the varieties yield it plentifully, though what is obtained is agreeably aromatic. Blossoming continuously from July to September, and growing in moist grounds, they are of some importance at a period when other supplies are cut off by drought.

The blossoms of the honey locust are said to yield honey, though we have never seen bees working on them. They are yellowish green, small and inconspicuous, and arranged in spikes. The pods are filled with sweet pulp between the seeds when ripe, which boys are fond of, but we do not know that bees partake of it. It seems to have been a favorite with General Washington, as there are many fine and large old specimens in the grounds of Mount Vernon.

Whether the blossoms of the Mountain Ash or the Osage Orange yield honey, we are unable to say.—Ed.

### Comb Guides.

The following is the article referred to in our last number, as showing conclusively that the bevelled edge or triangular comb guide is no new invention:

Extract from "OBSERVATIONS ON BEES," by John Hunter, Esq., a paper read before the Royal Society of London, Feb. 23, 1792, and published in the Philosophical Transactions, vol. 82, page 128.

"As one perpendicular comb of the whole length and height of the hive, in the centre, dividing it into two, is the best position for exposing their operations, it is necessary to give them a lead or direction to form it so; therefore it is proper to make a ridge along the top, from end to end, in the centre, between the two slides, for they like to begin their work from an eminence; if we wish to have them transverse or oblique it would only be necessary to make transverse or oblique ridges in the hive."

Clearly, Clark's patent is worthless, as the Courts will decide if appealed to.

As all muscular exertion requires food to supply the waste of the system, the more quiet bees can be kept, the less they will eat.



## THE AMERICAN BEE JOURNAL.

WASHINGTON, MARCH, 1870.

Though we have enlarged the JOURNAL, by adding four pages monthly, making it a twenty-four page pamphlet, clear of advertisements, we still find ourselves cramped for want of room, and compelled to "hold over" several communications. We would suggest to correspondents to condense their articles as much as possible. Readers require variety in our columns, and articles compressed and brief are all the more likely to be carefully read.

## Meeting of Michigan Bee-keepers.

The Michigan Bee-keepers' Association will meet at Lansing, (Mich.,) on the 23d and 24th of this month, (March.) As it is proposed then to make arrangements for holding a *National Bee-keepers' Convention*, it is desired that there be a large attendance of bee-keepers from other States, and from the British Provinces.

After an unusually long delay, we have received the Report of the proceedings of the German Bee-keepers' Annual General Convention, held in the city of Nuremberg on the 14th, 15th and 16th of September last. There were present four hundred and fifty-three bee-keepers and persons interested in bee culture. Among them were sixty-seven deputies from various apicultural and agricultural associations, and a number of ladies. A large part of the first day was devoted to celebrating the twenty-fifth anniversary of the establishment of the "*BIENZETZUNG*," and conferring merited honorary marks of distinction on Mr. Seminary-prefect Andrew Schmid, who was mainly instrumental in starting the paper, and who has edited it uninterruptedly for a quarter of a century. Want of room prevents us from giving a detailed account of what was done on the occasion, when there seems to have been a general rivalry to manifest high appreciation of the services rendered by the veteran editor. Though some of the more prominent bee-keepers of Germany were unable to attend the Convention, the discussions were spirited and exceedingly interesting. We have marked a number of passages for translation.

We are at all times disposed to allow correspondents full scope in the expression of their views and opinions, however much we may dissent from them, and ordinarily let them pass "without note or comment." But, in a matter so important in bee-culture as the fundamental principle of the Dzierzon theory, of late so frequently impugned in this country, we cannot properly refrain from reiterating our own convictions on suitable occasions. Thus, we hold it to be a matter settled physiologically that impregna-

tion does not affect the drone progeny of a queen, and that, consequently, in every case, the drones produced by a queen are the infallible indicators of her own character and quality. If a supposed full-blood Italian queen be fertilized by a black drone, and the drones produced by her show any symptoms of hybridization, however slight, set her down in your register as having herself unquestionably an original or inherited taint. Her drones are worthless for breeding purposes, where the introduction or re-establishment of the pure Italian race is aimed at; and she is incapable of producing even such hybrid workers as the breeder looks for, under the mistaken notion that she was pure prior to fertilization.

We have received copies of the following recent publications:

VICK'S ILLUSTRATED CATALOGUE AND FLORAL GUIDE, from James Vick, the veteran seedsman, Rochester, N. Y.

ALLEN'S SEED CATALOGUE for 1870, from R. H. Allen & Co., 189 and 191 Water street, New York, N. Y.

Annual Trade List of the CHERRY HILL NURSERIES, of Hoopes, Bro. & Thomas, West Chester, Pa.

The PUBLIC LEDGER ALMANAC for 1870, from Geo. W. Childs, Philadelphia. A copy of this almanac is presented to each subscriber to the Public Ledger.

PREMIUM LIST of the Mechanics and Agricultural Fair Association of Louisiana, for the fourth grand State Fair, commencing April 23d, 1870, and continuing nine days.

Also, a small pamphlet on "Bees" and their management, by W. & H. Goulding, manure manufacturers, Cork and Dublin, Ireland.

## Correspondence of the Bee Journal.

NEW CUMBERLAND, W. VA., Jan. 23.—Bees have done very poorly here for the last two years, on account of the drouth. I started two years ago with thirty-three stands, and paid out forty-five dollars for Italian bees and feed, and have not one dollar out of honey in those two years. But I think that next season will prove a good one for bees, as clover never looked better than it does at this time.—WM. GREGORY.

BYRON, MICH., Jan. 24.—I wish success to the BEE JOURNAL. It is just what every bee-keeper wants. I followed the directions given in the BEE JOURNAL on feeding bees, to induce or promote breeding, and my bees have done the best of any in the neighborhood; enough better than others to more than thrice pay the price of the JOURNAL. Bees have not done well here for the last two years. A great many stocks will perish this winter, if not fed.—JOHN MIDDLESWORTH.

EAST TILTON, N. H., Jan. 26.—One year ago last September, I bought my first swarm of bees. At that time I could not tell a worker from a drone, or a drone from a queen, nor drone-comb from worker-comb. But by the information and instruction obtained from your JOURNAL, I not only soon learned readily to detect either, but even handle my bees about as I am a-mind to, to the astonishment of some

of the old gum and sulphur-pit men. I have two stocks with Italian queens, (put in late in the fall,) three hybrids, and two black stocks. Three were doubled up from six light stocks.

The past season was an extremely poor one for bees in this vicinity. Not one-fourth of this year's swarms have stored honey enough to winter through; and consequently a great number have been consigned to the sulphur pit. On account of drought, breeding ceased so early that nearly all stocks have gone into winter quarters very light; and the bees that survived must have been aged, so that the prospect of wintering well is rather unfavorable.

Success to the BEE JOURNAL. As long as I undertake to keep bees, I can hardly see how I could get along without it.—J. R. P. SANBORN.

TUSCOLA, ILL., Jan. 26.—I wish to obtain a little information through the JOURNAL. I have ten stands of bees in old-fashioned box hives, and wish to transfer them into movable comb hives. When is the best time to transfer, before or after swarming? The hives I am making are similar to those of Mr. I. F. Tillinghast, only mine are 18½ inches square inside, and 12½ inches deep. I intend to put my honey-boxes in the end or side, and would ask Mr. Tillinghast how he makes his division-board so that the bees can get to the boxes, and how he makes the entrances to his honey-boxes? Will it do to put the frames broadside to the entrance? Do you have a honey-board on the top of your frames during the summer? The bee fever is at considerable height here.—H. C. DURBOROW.

DALTON, OHIO, Jan. 24.—I have been a reader of the BEE JOURNAL for a short time, and cannot speak too highly of its merits; but as I am only a beginner in bee-culture, I would say that the readers of this correspondence must not expect anything new. I will only give some of my experience, while at the same time I would like to have some comments on my letter from some of the brethren who have more experience in this line.

My experience is limited to one summer. In the spring of 1869, I bought a colony of common black bees in a common square box. In the latter part of May I formed an artificial colony on a system highly recommended by Mr. Langstroth. Some time in July I bought an Italian queen, and introduced her into the artificial colony, which was doing very well at this time. I saved the common black queen until I was sure that the Italian queen was accepted by the colony. I now formed a second artificial colony from the first stock, giving it the queen I had saved. It did very well. I assured myself that all had queens; after which I took a trip to Tennessee for two weeks. I was pleased with my success thus far; but imagine my surprise when I came home and found my parent stock infested with the bee-moth, so much that I could not save it, as it was in a square box, and I consequently had no control of the combs. I forced out what few bees were left in the second artificial colony, emptied the old square box, broke up and melted the comb with moth and all. Having thus avenged myself, I turned my attention to the two remaining colonies, which seemed to gather a good deal of honey.

Several weeks later, one of my neighbors allowed my Italian colony to rob one of his weak stocks, thus spoiling them; for having robbed his, they made an attack on my colony, and carried away the greater portion of its stores before my discovery. I closed my attacked colony for two or three days; but upon opening it again, the Italians renewed the attack. Its loss, however, was my Italian's gain. I now have one good colony of Italian bees, with which I propose to Italianize some common stocks. I intend to buy some black bees, providing I can Italianize them without

going to the expense of buying queens for every colony. It seems to me that I could Italianize half a dozen or more from the one I now have, if I only knew how. Will some one oblige a beginner by informing him seasonably of the best mode of doing it? —J. RUDY ROEBUCK.

SHELL BLUFF, YAZOO RIVER, MISS., Jan. 24.—Since January 15th, the bees in this section have been hard at work, carrying large quantities of pollen. I think they gather it principally from the maples, as the tops of those trees seem to be alive with bees. The thermometer stands at 5 P. M. to-day at 73° F., so you see the weather is quite warm. It makes one very sad to see the little fellows going in with their heavy loads, when we know that all their brood must perish, and that they are but shortening their own lives by this extra work. You know that I have foul brood—that terrible scourge, in my apiary; but I hope that through the kindness of friends, I shall be able to send some good news to you, Mr. Editor, before many days. In the meantime, I would say to the readers of the BEE JOURNAL, as we are beginning a new year, let us work hard for the prosperity of this our pet; for who is there of us who does not feel that the BEE JOURNAL is a part of his family? Let every one of us send in at least one new name. This is small, but it will accomplish much for our favorite.—W. H. MORGAN.

WENHAM, MASS., Feb. 10.—On page 172, in the February number, can be found a communication from Mr. D. T. Batchelder, of Newburyport, Mass., giving his experience with his first hive of bees. Mr. B. says: "I took them to the county fair, and there obtained the first premium of four dollars. *There were three or four old bee-keepers present, with their experience and new style of hives, and friend Alley with the rest.* All said that their bees did nothing this year, and we must try again, and see who will win." Now the foregoing statement is far from being correct; and any one on reading the article would suppose that "friend Alley" was at the Fair and made the best show that he could in the "bee line." Well, I was present at the County Fair, and had an observing hive with me, merely to show the queen bee, and to do my part towards amusing the people who attended the Fair. My bees were not entered for a premium, nor did I expect one.

Mr. D. C. Batchelder, of Newburyport, brother of the gentleman named above, had a stock of bees on exhibition, in one of my new style Langstroth hives. Last season (1869) they stored at least forty pounds of honey in small boxes, besides casting off a large swarm that filled its hive with new comb, and stored honey enough to winter. Nor was this all. On the first day of June one of the combs in the brood-box broke down and destroyed more than two quarts of the bees. This hive was exhibited with all the boxes in it, but had the outside case removed so that the boxes could be seen, and all of them (36) had more or less honey in them.

Mr. B. says that he obtained the first premium, of four dollars. I do not see how he secured a premium on his bees, when none was offered by the society. The sum of six dollars only was divided between four bee-keepers; and this was only done to partly pay for the trouble of putting the bees into the hall and taking them out again. Of the above-named sum Mr. D. T. Batchelder received \$2; D. C. Batchelder, \$2; Alfred Green, \$1; and "friend Alley" \$1. Now Mr. B. you must try again before you can "win."

I wish to say that I have received several letters to which I could not reply because no name of town or State was given. Two letters received last fall were not answered for the same reason—one from Joseph A. Brown, and the other from a Mr. Crane. Correspondents will please take the hint.—H. ALLEY.